

## JANUARY 1, 2002 • VOL. 36 • NO. 1 • \$5 COPY

This issue of *Computerworld* reveals the results of our extensive research to identify this year's Premier 100 IT Leaders. In this special section, you'll see how these IT executives have become outstanding practitioners and early adopters of leading-edge IT.

# Computerworld's Premier 100 IT Leaders Conference

**March 3-5, 2002  
Palm Desert, CA**

## 3rd Annual COMPUTERWORLD 100 PREMIER IT LEADERS CONFERENCE

**March 3-5, 2002  
Marriott Desert Springs  
Palm Desert  
California**

Computerworld's Premier 100 IT Leaders are technologists who understand business needs, take calculated risks and lead through innovation. They are vice presidents of IT, CIOs, IS directors and business managers honored as Computerworld's Premier 100 from a wide swath of vertical industries. When you attend this unique conference, you'll hear proven examples of how these IT Leaders have advanced their organizations through innovative leadership.

Crafted by Computerworld editors, this conference offers a radical departure from the standard IT event. With a focus on great ideas, best practices and real applications of IT strategy, you'll gain direct insight from leading user organizations. The major sessions at Computerworld's Premier 100 IT Leaders Conference will provide highly interactive, entertaining discussions with IT Leaders and industry experts - each moderated by Computerworld editors in a town-hall meeting format. Key topics will center on the intersection of technology and business in areas critically important to IT Leaders.



**Conference Chair:**  
**Maryfran Johnson**  
Editor-in-Chief  
Computerworld

### SUNDAY, MARCH 3

**12:00 pm - 5:00 pm**

**GOLF OUTING**

**7:00 pm - 9:00 pm**

**PRE-CONFERENCE NETWORKING RECEPTION**

### MONDAY, MARCH 4

**8:00 am - 8:15 am**

**WELCOME AND OPENING REMARKS**

**Maryfran Johnson, Editor in Chief, Computerworld**

**8:15 am - 9:00 am**

**OPENING KEYNOTE PRESENTATION: CRAFTING IT STRATEGY IN CHAOTIC TIMES**

**Eric Dean, CIO, United Airlines**

**9:00 am - 10:00 am**

**PANEL DISCUSSION: LEARNING TO SUCCEED WITH PLAN B: IT LEADERSHIP IN CHALLENGING TIMES**

**Moderator: Pirm Fox, West Coast Bureau Chief, Computerworld**  
Uncertainty may just be the major guiding principle in the New Millennium of the IT economy. Yet IT Leaders must be ready to respond swiftly and confidently to every crisis - despite dwindling resources and shifting business fortunes. How do senior IT executives stay focused on new priorities without sacrificing quality in tough economic times? How do they reinvent their IT mission and galvanize their staff for the next upswing in corporate fortunes? What are their prescriptions for a healthy IT enterprise? This panel will examine the way various leadership styles - from diplomat to innovator to strategist - have worked for some of the industries most challenged by the economic downturn.

**Panelists: Roger Gray, Vice President and CIO, Pacific Gas & Electric; Deryk Jones, President, Sentech LLC; Mike Ragones, CIO, Staples.com**

**10:15 am - 11:00 am**

**INTERACTIVE Q&A: NEW THINKING ON AN OLD PROBLEM: MANAGING VENDORS AND SUPPLIERS TO MAXIMUM ADVANTAGE**

**Moderator: Maryfran Johnson, Editor in Chief, Computerworld**  
The relationship between corporate users and their key vendors is often a strained affair, with distrust and disdain on both sides. Yet the need to deploy innovative, cost-effective technology solutions to specific business problems has never been more acute. How do you save your company money on an IT sourcing strategy that impresses the senior management team while preserving a good working relationship with vendors? Where do you find the levels of contract negotiating expertise your organization needs? What are the most critical skills in managing ongoing supplier relationships? This interactive Q&A will explore and deliver on the front-line experience of a longtime senior executive consultant and a supplier management expert who comes from the CIO ranks.

**Panelists: Thornton May, Chief Psychologist and Futurist, Tether Associates; Bart Perkins, Managing Partner, Leverage Partners, Inc.**

**11:00 am - 12:30 pm**

**IT USER / IMPLEMENTER CASE STUDIES**

**12:30 pm - 1:30 pm**

**INTERACTIVE LUNCHEON**

**1:30 pm - 2:30 pm**

**PANEL DISCUSSION: INFRASTRUCTURE: ALWAYS ON, ALWAYS UNDER FIRE**

**Moderator: Mark Hall, Editor at Large, Computerworld**  
Your infrastructure never sleeps, but it's keeping you up at night. That's because the Web is always on, open to users, customers or hackers, too. Your global organization never stops working, either. Planned downtime is a luxury few can afford. Not long ago, a few minutes of downtime was a user inconvenience. But now, the CFO is bawling down your neck about lost revenue opportunities. And the scope of your infrastructure keeps expanding beyond just wires and network gear. Today, it includes elaborate server and storage systems, armies of PCs, wireless gadgets, data management and business intelligence software, complex directory services, vital security systems and emerging technologies like Web services. Our ex-

## CONFERENCE AGENDA

port panel of IT Leaders will bring their hands-on experience to bear, suggesting strategies and (where we say it) solutions to the source of so many IT headaches.

**Panelists: Neil Mathew, Senior Vice President and CIO, BMC Software; Bob Palmer, Assistant Vice President, Commerce Technology, Linco**

**2:30 pm - 3:00 pm**

**THE BUSINESS STRATEGY BEHIND DELTA'S IT INFRASTRUCTURE**

**Curtis Robb, Chief Technology Officer, Delta Technology**  
As the IT arm of \$16 billion Delta Air Lines, Inc., Delta Technology views its critical infrastructure through the lens of business as well as technology. The company strives to achieve balance between three key attributes: tracking total cost of ownership, finding a solution that fits the problem, and accelerating time to market. In this talk, Delta's CTO will provide an in-depth look at how he supports a highly complex business driven by an infrastructure that manages 240,000 devices.

**3:00 pm - 3:15 pm**

**BREAK**

**3:15 pm - 4:15 pm**

**PANEL DISCUSSION: THE HOLY GRAIL OF INTEGRATION: CRM MEETS THE SUPPLY CHAIN**

**Moderator: Cathy Holka, VP of IT, National Retail Federation**  
Connecting your customer-facing systems with your back office is an ongoing goal for many IT organizations, but extending that connection from CRM outward to your entire supply chain may just be the Holy Grail for the coming decade. What can go wrong? Everything from language and protocol conflicts to security breaches, data cleanliness concerns and the perennial lack of common standards across multiple platforms. Yet on the brighter side, there are increasingly useful tools (including statistical analysis software that business people can actually use) emerging to help. This panel will explore the practical realities of collaborative planning and supply chain integration with the customer in mind.

**Panelists: Roger Barkan, Vice President and CIO, Verizon Wireless; Jerry Hale, Director of Global Support, Eastman Chemical Co.**

**4:15 pm - 5:15 pm**

**PREMIER 100 "BEST IN CLASS" PROJECT WINNERS - CASE STUDY PRESENTATIONS**

**Moderator: Priscilla Tate, Executive Director, Technology Managers Forum**

**5:15 - 5:30 pm**

**CLOSING REMARKS**

**5:30 pm - 8:30 pm**

**EXPO OPEN, NETWORKING RECEPTION, BUFFET DINNER**

**7:30 pm**

**"BEST IN CLASS" AWARDS CEREMONY IN THE EXPO**

### TUESDAY, MARCH 5

**8:00 am - 8:15 am**

**OPENING REMARKS**

**8:15 am - 9:00 am**

**OPENING KEYNOTE PRESENTATION**

**9:00 am - 10:00 am**

**PANEL DISCUSSION: REAL-WORLD ROI**

**Moderator: Julia King, National Correspondent, Computerworld**  
Even with IT budgets remaining flat or declining this year, IT Leaders are under escalating pressure to show impressive returns on IT investments - and to deliver them faster and earlier in the development cycle. Some are pushing IT spending decisions higher up the executive chain to better educate the business side about the strategic impact of technology. Others are dividing large initiatives into smaller projects that must show a positive ROI before moving forward with the next phase. What really works and what doesn't? What are some real-world metrics that will convince a skeptical board of directors to invest in an IT project? Panelists will discuss innovative tactics for projecting, tracking and reporting ROI in these double-edged sword times of keeping costs down while positioning their companies for better economic times ahead.

**Panelists: Louis Gutierrez, CTO, Harvard Pilgrim Health; Jean Holley, CIO, USG; Carlie Knell, Senior Vice President and CIO, Teladoc; Russ Lambert, Director, Commerce, WESCO Distribution**

**10:00 am - 10:30 am**

**RIDING THE REALITY ROLLER COASTER**

**Tom Murphy, CIO, Royal Caribbean Cruises, Ltd.**  
Few industries were struck as swiftly and severely by the economic downturn as the travel and tourism sectors. For cruise line Royal Caribbean, the downturn meant shelving a \$180 million IT infrastructure project, laying off half its 400-member IT staff and putting CIO Tom Murphy's leadership skills to the ultimate test. In this compelling personal account, Murphy will talk about how his staff has refocused and started focusing on the future.

**10:30 am - 12:00 pm**

**IT USER / IMPLEMENTER CASE STUDIES**

**12:00 pm - 1:30 pm**

**EXPO OPEN, BUFFET LUNCHEON**

**1:30 pm - 2:30 pm**

**PANEL DISCUSSION: ENTERPRISE SECURITY - HOW MUCH IS REALLY ENOUGH?**

**Moderator: Eddie Schwartz, CISP, Senior VP, Guardant, Inc.**  
Despite the ongoing economic challenges, organizations continue to spend millions cleaning up the mess made by security breaches such as Code Red, Nimda and other attacks on the IT infrastructure. How much is enough for CIOs to spend on security risk and making computer systems safe? How much is enough information to share about security breaches with partners, suppliers, the government or the public? Are the existing security certifications - ISO standards really enough to lead to improvements in our risk posture? Our panel will bring its expertise to bear on these questions, providing senior executives with practical answers and useful ideas to take back to their own organizations.

**Panelists: Howard Schmitt, Chief Security Officer, Microsoft Corp.; Ross Lewis, Executive Vice President and CIO, Ethnet Inc.; David C. Jahn, First Vice President CIO, Baystate Healthcare**

**2:30 pm - 3:15 pm**

**PREMIER 100 "BEST IN CLASS" PROJECT WINNERS - CASE STUDY PRESENTATIONS**

**Moderator: Priscilla Tate, Executive Director, Technology Managers Forum**

**3:15 pm - 3:30 pm**

**BREAK**

**3:30 pm - 4:30 pm**

**PANEL DISCUSSION**

**4:30 pm - 5:15 pm**

**CLOSING KEYNOTE PRESENTATION: FUELING THE ENGINE OF CREATIVITY: IT AND BIOTECHNOLOGY**

**Andre Mendes, Chief Operating Officer, Phivita Corporation**  
Beyond the enabling role of IT in corporate business is an accelerating journey of discovery fueled by scientific and technical advances. Particularly on the biotechnology frontier, IT is revolutionizing the way science and medical research is done. Andre Mendes, a 2001 Premier 100 honoree and former CIO of the Public Broadcasting System, has a front-row seat at the revolution from his business leadership role at biotech startup Phivita Corp. He uses IT morphing from its infrastructure and connectivity roles into a powerful engine of creation with implications for technology executives across multiple industries. In this forward-looking presentation, he will describe a unified grand vision for IT's future and its far-reaching impacts on both business and society.

**5:15 pm - 5:30 pm**

**FINAL REMARKS AND CONFERENCE SUMMARY**

**7:00 pm - 7:30 pm**

**COCKTAIL RECEPTION**

**7:30 pm - 9:00 pm**

**GALA DINNER AND AWARDS CEREMONY**

**Guest Speaker: Thornton May, Chief Psychologist and Futurist, Tether Associates**

For more information or to register, visit [www.premier100.com](http://www.premier100.com) or call 1-800-883-9090

# COMPUTERWORLD

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## The Heart Of IT

**U**NWAVERING IN A CRISIS, AN INSPIRATION TO their staffs and attentive to business goals as well as technology innovation, the Premier 100 IT Leaders for 2002 are the minds and muscle of today's IT organizations. They may have the weight of a sagging economy and pressing security fears on their shoulders, but they also have the hearts and souls to carry the load. Plus, they have a lot to say about how 2002 will shake out for IT. Meet and learn from them in our third annual special report, beginning on page 15.

### INSIDE

#### Challenges

Security is a top-of-mind issue in 2002. Read how IT leaders are addressing it and other concerns. **PAGE 16**

**ONLINE:** Exchange strategies with your peers in our online forums:  
[www.computerworld.com/q?a1400](http://www.computerworld.com/q?a1400)

#### People

Read how this year's Premier 100 honorees are leading their companies into the new year. **PAGE 30**

**ONLINE:** What kind of leader are you? Find out in our quick, interactive quiz:  
[www.computerworld.com/q?a1350](http://www.computerworld.com/q?a1350)

#### Tactics

The economy will be a factor in IT's every move this year. See how IT leaders are preparing. **PAGE 48**

**ONLINE:** Get tips for dealing with vendors, retaining staff and re-casting travel policies:  
[www.computerworld.com/q?25053](http://www.computerworld.com/q?25053)

# 100 PREMIER IT LEADERS 2002





*"Waiter! There's soup on my fly!"*



# QUALITY OF SERVICE.

## AVOIDING EVEN THE SMALLEST MISTAKES.

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maker of outdoor clothing, conduct their e-business 24 hours a day. Their customers can now have immediate access to order information at all times, regardless of what channel they used to place their orders.

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But this is just the beginning. There's more on the way. Soon we'll be seeing self-optimized environments: environments with systems that are capable of healing, protecting and configuring themselves.

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**6 Comcast and AT&T** make a \$72 billion broadband deal at a time when telecommuters are clamoring for less-restrictive VPN policies from both companies.

**8 The lack of** a well-integrated technology infrastructure is to blame for most B2B project failures, managers say.

**8 Microsoft issues** a security bulletin warning of a "critical" vulnerability in Windows XP's Universal Plug and Play service.

**10 MetLife integrates** data from more than 30 silos to create a "gold copy" of customer information.

**12 Data analysis software** with development roots in the CIA is tapped to detect potential terrorists when they make travel reservations.

**12 The Senate kills a bill** that would have given tax incentives to companies that purchase IT equipment, but managers want more than "parlor tricks with the tax code" anyway.

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## ONLINE

### Lots of devices

When ubiquitous computing explodes, the average knowledge worker will carry as many as three devices, says columnist Michael Gartenberg.

[www.computerworld.com/q/a1410](http://www.computerworld.com/q/a1410)

### Burlington Coat buttons up CRM

Ginger Atwater, Burlington Coat Factory Warehouse's e-business director, describes the company's first steps into CRM.

[www.computerworld.com/ecommerce](http://www.computerworld.com/ecommerce)

## Quick Link

For breaking news, updated twice daily, visit [Computerworld.com](http://Computerworld.com).

[www.computerworld.com/q/a4000](http://www.computerworld.com/q/a4000)

# The Heart of IT

## CHALLENGES

### 16 Security: IT Locks Down

This year, some of America's most forward-looking IT security managers will be responsible for rewriting the book on corporate enterprise security and helping to guide their industry colleagues through the uncertainty of the year ahead. BY DAN VERTON

### 20 ROI: Make It Bigger, Better, Faster

Many IT leaders are responding to the ROI demand by homing in on one or two critical projects that directly support and add value to their company's primary business goals. In other words, they're following the money. BY JULIA KING

### 22 Integration: IT's Albatross

Integrating technology can be an unpleasant inevitability that puts huge pressure on IT teams because so much of the business is at stake. Managing these often massive and ambitious projects demands take-charge individuals. BY MARK HALL

### 26 Infrastructure: Back to Basics

For a variety of reasons, including previous investments in e-commerce build-outs and a sagging economy, IT leaders say their main infrastructure task for 2002 is to tweak and optimize what's already in place.

BY JAIKUMAR VIJAYAN

### 28 New Technology: Covering All the Bases

Gaining companywide support for new initiatives is never easy. IT leaders say nothing works better than a rock-solid knowledge of the technology and face time with end users and executives alike. BY MARY BRANDEL

## 100 PREMIER IT LEADERS 2002



## PEOPLE

The complete list of this year's Premier 100 IT Leaders begins on page 31.

**30 The Coaches.** Leading teams to the successful completion of projects has two benefits, notes Stephen F. Brown of Tenet Healthcare: It gets the job done on schedule and fosters a warmer workplace. BY LESLIE JAYE GOFF

**32 The Diplomats.** Roger Gray, CIO at Pacific Gas & Electric, took over IT just in time to pre-empt the power crisis and the utility's bankruptcy filing. BY KATHLEEN MELMUKA

**36 The Strategists.** Since joining Walt Disney World in March 2000, CIO Roger Berry has brought order to his IT department and lowered staff turnover. BY KIM S. NASH

**42 The Visionaries.** "Enthusiasm and optimism and well-crafted statements of vision are all contagious," says Craig B. Luigart, CIO at the Department of Education. BY GARY H. ANTHER

**44 The Innovators.** Michael J. Ragunas, chief technology officer at Staples.com, has transformed the office supply retailer's stores with a complete systems overhaul and built dot-com revenue to nearly \$1 billion. BY LESLIE JAYE GOFF

## SURVIVAL TACTICS

**48 Budget:** For IT leaders, 2002 survival preparations include laying off workers, postponing or scrapping scheduled IT projects, hammering vendors for bare-bones pricing and more closely scrutinizing all proposed technology projects. BY JULIA KING

Pictured, from top: Fran Dravis of BellSouth, Stephen Brown of Tenet Healthcare, Craig Luigart of the U.S. Department of Education, Phil Go of Barton Malow, Roger Gray of PG&E

### Join the discussion

Sound off on the top challenges facing IT in the year ahead. Join our discussion forums on security, return on investment strategies, integration, infrastructure and evaluating new technology at [www.computerworld.com/q/a1400](http://www.computerworld.com/q/a1400)

### ONLINE EXCLUSIVE

### What kind of leader are you?

Knowing your personal leadership style can help set the course for your career. Take our quick, interactive quiz to find out which profile best matches your leadership qualities: Coach, Diplomat, Strategist, Visionary or Innovator.

[www.computerworld.com/q/a1350](http://www.computerworld.com/q/a1350)

### Survival tactics

The back-to-basics economy is shaping much of IT's agenda for 2002. Find out how IT leaders are renegotiating vendor contracts, keeping their staffs motivated and revisiting travel policies in our guide to the new year. [www.computerworld.com/q/725053](http://www.computerworld.com/q/725053)

### Learn from the leaders

The Premier 100 IT Leaders tell us about their first jobs in IT, describe their own pathways to management and reveal what drew them to technology as a career. Also, find links to online resources for the aspiring IT leader. [www.computerworld.com/q/725969](http://www.computerworld.com/q/725969)

COVER PHOTO CREDITS, CLOCKWISE FROM TOP LEFT: MARG BERLOW, RAY NO, JENNIE ZEISER, JOHN RAE, RED MORGAN; CENTER: CHRISTOPHER HARTING  
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## AT DEADLINE

### UCITA Backers Offer To Water Down Law

The drafters of the Uniform Computer Information Transactions Act (UCITA) did an about-face on some of the proposed software licensing law's key provisions. The Chicago-based National Conference of Commissioners on Uniform State Laws recommended that remote system shut-offs by vendors be banned and agreed to drop prohibitions against reverse-engineering. But UCITA opponents are seeking more changes.

### Security Holes Found In SQL Server

A pair of security holes in Microsoft Corp.'s SQL Server database could make the product vulnerable to a denial-of-service attack and to the execution of malicious code by an attacker, the company said. Patches to fix the holes are available for download from Microsoft's Web site.

### Griffin Takes New Job At Food Distributor

Ron Griffin, who said in November that he was leaving his job as CIO at The Home Depot Inc. in Atlanta, has agreed to take a similar position at Lewisville, Texas-based Fleming Cos. Fleming, a \$14 billion food distributor and supermarket operator, said Griffin will start after completing his remaining duties at Home Depot in early 2002.

### Short Takes

Lexington, Mass.-based RAYTHEON CO. extended a deal under which it buys Intel-based systems from COMPAQ COMPUTER CORP. for three more years, with an expected value of up to \$250 million. . . . A federal judge ruled that Santa Clara, Calif.-based PALM INC. and 3COM INC. infringed on a handwriting-recognition patent held by Stamford, Conn.-based XEROX CORP. Palm said it plans to appeal.

# Users: AT&T Comcast Should Change Policies

## Broadband restrictions called 'hostile'

BY BOB BREWIN

UNLESS AT&T Broadband and Comcast Corp. change their policies toward business broadband users, the merger of the two companies will result in the creation of an even larger entity characterized by a hostile approach to remote workers and small businesses, users and analysts say.

AT&T Corp. last week agreed to merge its cable television and broadband unit with Comcast Corp. in a \$72 billion deal, creating a new company to be called AT&T Comcast Corp. While the company that would be created through the merger is being hyped as a competitive alternative to local telephone companies for high-speed data services, not everyone sees the deal as a particularly positive development for users.

Mark Kersey, an analyst at ARS Inc. in La Jolla, Calif., said the companies' policies will force users to choose "between the lesser of two evils [for broadband] — the phone company or the cable company."

Philadelphia-based Comcast has a policy in place that forbids the use of virtual private network (VPN) clients over residential connections. And AT&T last month instituted a 1.5M bit/sec. cap on download

speeds when it shifted users to its own network from the bankrupt At Home Corp. VPNs provide remote workers with a protected tunnel to corporate servers through the Internet, guarding data from hackers.

Sarah Eder, a spokeswoman for Englewood Cliffs, Colo.-based AT&T Broadband, said the company intends to eventually introduce tiered packages that will provide higher speeds at higher prices. She declined to disclose pricing.

### Sharp Limits on Downloads

Eder added that the company intends to sharply limit the amount of data a user can download each month without paying a higher fee. "We're in the a la carte business now," Eder said, adding that AT&T Broadband can no longer support AT Home's "all-you-can-eat" policies, which led to abuse of the system. "One percent of our users in places like Silicon Valley account for 30% of our traffic," Eder said.

Comcast offers a telecommuter service that supports VPNs for which it charges \$95 a month, compared with \$39.95 a month for residential service. The company's Business Communications subsidiary also offers a range of corporate broadband services priced from \$150 to \$695 a month.

"Those prices will have to come down" if the new AT&T Comcast wants to make inroads in the corporate broadband market, Kersey said.

Peter Gnas, network administrator at Wixon Fontarome Inc., a St. Francis, Wis.-based bread-mix maker, said he's disturbed that providers charge extra for VPN connectivity. Gnas, whose company recently switched its field sales force from dial-up to broadband to support bandwidth-hungry

XML applications, said he views the VPN ban as equivalent to "charging people extra for speaking another language on the telephone."

Gnas added that if cable companies want to charge extra for "business-class services," they should offer business-class customer service, including quality-of-service guarantees and "real support, rather than the usual less-than-quality support."

Eric Hoyt, a structural engineer at Weidinger Associates Inc., an engineering firm in New York, said the cable companies' restrictions target the wrong people. Stress on a cable broadband network doesn't come from business users, but from people who are "downloading music and movies," he said. In Hoyt's view, charging extra for VPN service "is like charging you more for gasoline depending on what kind of car you drive."

Jack Nilles, president of Jala

## AT A GLANCE

### Broadband Operations

■ AT&T Broadband has 850,000 broadband subscribers; Comcast has 790,000.

■ Comcast forbids VPN usage over residential connections. It offers business-class services to enterprises starting at \$150 per month and peaking at \$695 per month for 2M bit/sec. upstream, 512K bit/sec. downstream.

■ AT&T Broadband limits download speeds to 1.5M bit/sec. It plans to introduce tiered services with higher speeds and prices. It doesn't provide user support for VPNs.

International Inc., a management consulting firm in Los Angeles that specializes in telecommuting, said that, based on his recent experience with AT&T Broadband's VPN support, he doesn't have much hope that AT&T Comcast will provide better service for business users. Due to what he claims is a lack of commitment to customer support, Nilles said he advised a large client to opt for Digital Subscriber Line service from a telecommunications company. "Cable companies have always had user-hostile policies," Nilles said. ■

## Will Microsoft Save the Day?

If the merger of AT&T Broadband and Comcast goes through, Microsoft Corp. would convert \$5 billion worth of AT&T Broadband stock into common stock in the new company, AT&T Comcast. Microsoft considers its investment "an opportunity to bring high-quality software services and interactive services to the consumer," said Microsoft spokeswoman Katie Fonner. Microsoft will end up with 115 million shares of the new company.

Users and analysts said they hope Microsoft's interest in using AT&T Comcast as a vehicle for deploying its software will play a role in the re-evaluation of AT&T Broadband and Comcast policies that inhibit the use of cable broadband services by remote workers.

Peter Gnas, network administrator at Wixon Fontarome, said he finds Comcast's residential

VPN ban puzzling, given that Microsoft "has built VPN support into Windows XP."

Mark Kersey, an analyst at ARS, said Microsoft's holdings in AT&T Comcast and its desire to penetrate homes with broadband to support new Microsoft-driven appliances could lead to a re-evaluation of the VPN policy. As a large stakeholder in AT&T Comcast, Microsoft might "try to resolve some of these issues," Kersey said. "It would seem that Bill Gates would like to see the lowest-priced broadband possible."

Kersey said he assumed that Microsoft would use its hefty investment in AT&T Comcast "to make an appeal on behalf of the people who are using VPNs."

Microsoft officials declined to comment on AT&T's and Comcast's broadband policies.

—Bob Brewin

### Correction

In the article "Sept. 11 Attacks Prompt Decentralization Moves," [News, Dec. 17], we incorrectly reported that Empire Blue Cross Blue Shield is building a new headquarters in midtown Manhattan. The headquarters is actually being built in Brooklyn.





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**AVAYA**

COMMUNICATION WITHOUT BOUNDARIES

# Users Say Lack of IT Integration Hurts B2B

*They call for software to be tied more tightly to back-end systems for better ROI*

BY MICHAEL MEEHAN  
NEW YORK

INFORMATION technology and e-business managers who attended a conference here in December targeted the lack of a well-integrated technology infrastructure as the chief culprit responsible for many business-to-business projects' failure to deliver the benefits users expected.

An inability to measure the performance of business-to-business applications designed to connect multiple trading partners is also a big factor in the low success rate, according to attendees at the Line56Live e-business conference.

Alayne Gyetvai, chief technology officer at Minneapolis-based Cargill Inc.'s eVentures unit, said many companies have installed too much new software without having a central plan. She said that Cargill and other businesses need to do a better job of optimizing what they have in place and develop capabilities to analyze how the systems work.

Milwaukee-based Johnson Controls Inc. is going even further. John Waraniak, an e-busi-

ness director at the auto parts maker, said the company is in the process of choosing single application server, systems management and supply chain software vendors to supplant a mix of products that were installed at its facilities in the U.S. and Germany.

In its early e-business efforts, Waraniak said, Johnson

Controls failed to achieve the system-to-system automation that executives hoped would make the company more efficient. "And you can't connect to other [companies'] systems until you've got your own in order," Waraniak said.

## Areas of Uncertainty

Kerry Schmitt, an analyst at A.T. Kearney Inc. in Chicago, said that about half of 290 e-business executives who participated in a November survey by the consulting firm said they

doubt that their IT departments are prepared to deliver on business-to-business projects.

"I think that number shows companies really aren't sure what they need," Schmitt said.

Early e-business projects at Citibank failed to take into account the full cost and complexity of the needed back-end IT integration, said Dominick Cortellessa, global head of e-business at the New York-based financial services firm.

"We haven't had proper testing, and it's caused many [people] to misunderstand the complexity of the integration work," Cortellessa said. That led executives to miscalculate return on investment figures, creating tension between Citibank's business and IT units, he said.

Karenann Terrell, e-business director for product and consumer initiatives at DaimlerChrysler AG in Auburn Hills, Mich., said the automaker is developing an online computer-aided design system that it and its suppliers will use. But the key was linking the design system to other applications using IBM's WebSphere application server and Dallas-based i2 Technologies Inc.'s supply chain management software.

"We have to tie things together so people can know [about design changes] instantly," Terrell said. ■

**Quick Link**

Microsoft touts the business value of Web services, but users are skeptical:  
[www.computerworld.com/q726033](http://www.computerworld.com/q726033)

# Large-Scale Attack Targeting XP Possible

BY CAROL SLIVA

Critical security vulnerabilities in Microsoft Corp.'s Windows XP desktop operating system that were made public in late December pose a lesser threat to corporate users than to consumers, a company spokesman said.

Microsoft issued a security bulletin on Dec. 20 strongly urging all Windows XP users to immediately apply a patch to address a vulnerability in the Universal Plug and Play (UPnP) service that's enabled by default in Windows XP.

Users running Windows 98, 98SE and ME also need to apply the patch, but only if the UPnP service is installed and running on their PCs, Microsoft said.

On Oct. 29, four days after Windows XP shipped, eEye Digital Security in Aliso Viejo, Calif., informed Microsoft of the vulnerability in its UPnP service, which allows an operating system to discover and use new hardware added to the network, a Microsoft spokesman said.

Windows product manager Charmaine Grazing classified the vulnerability as "critical" but said Microsoft isn't aware of any problems that have oc-

curred as a result of it.

The FBI's National Infrastructure Protection Center, meanwhile, urged users to take immediate action. The agency on Dec. 22 went so far as to recommend that XP users consider disabling the UPnP service altogether, and it posted directions for doing so on its Web site.

Russ Cooper, moderator of the NTBtraq mailing list and an analyst at TruSecure Corp., a Reston, Va.-based security firm, said he wouldn't be surprised to see "some large-scale attack" using home machines or possibly PCs in a university environment, with "some group taking control of hundreds of thousands of machines and using them for a distributed denial-of-service attack or some sort of attack against a site by many, many machines."

But Cooper predicted that it won't happen for a month or two, since it typically takes time for hackers to learn how to exploit such problems.

Cooper advised corporate IT departments to make sure their intrusion-detection systems are looking for anything that uses UPnP protocols and to turn off the UPnP feature if they're not using it or install the patch.

Charles Kolodgy, an analyst at IDC in Framingham, Mass., said businesses face a low risk from outside parties and a medium risk from inside their LANs that security policies should help mitigate. "This is a consumer vulnerability, for the most part," he said.

"For corporations, the inter-

nal IP addresses should be protected behind a firewall, thus a targeted attack which requires an IP address would be difficult to execute," Kolodgy said. A broadcast attack, which doesn't need an IP address, "appears impossible to execute" because the messages that advertise the availability of UPnP-capable devices can't be routed, so those devices outside a LAN couldn't broadcast the messages, he explained. ■

## Who's at Risk, and Why?

*Details of the threat posed by the UPnP service vulnerability:*

**AFFECTED SOFTWARE:** Windows XP, ME (if UPnP is activated), 98 and 98SE (if UPnP was installed via the Internet Connection Sharing client that ships with Windows XP).

**BUFFER OVERRUN VULNERABILITY:** An attacker can gain entry to a PC via the Internet or a private network by overloading a segment of the UPnP service's memory, which is called a buffer. The attacker can then gain complete control of the machine or cause it to crash.

**DENIAL-OF-SERVICE VULNERABILITY:** When a new UPnP-capable device (such as a printer) is powered on, it announces its presence to the network. If a PC wants to use that device, it needs to get information about that device and how to use it. The denial-of-service vulnerability results because the UPnP doesn't adequately limit the steps the UPnP service will go through to get information about using that newly discovered device.

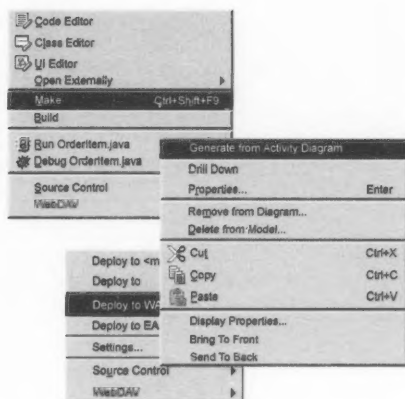
In one scenario, an attacker can pretend to be the device and tell the PC to get the device description from a particular port on a particular server. That server can be configured to echo the download request, dragging the PC into an endless download cycle that can consume some or all of the system's availability. In a second scenario, an attacker can send out a directive that specifies a third-party server as the location of the device description. If enough machines respond, the third-party server will be flooded with bogus requests for information. In both scenarios, the attacker can send the instruction directly to a PC's IP address or to a broadcast or multicast domain, which sends the directive to many machines.

SOURCE: MICROSOFT CORP.

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# MetLife Building Giant Customer Relational DB

Effort aims to pool data for cross-selling

BY LUCAS MEARIAN

**M**ETLIFE INC. IS building what will arguably become one of the largest real-time relational databases in the financial services industry by using middleware that will tie together silos of customer information through emerging XML standards. This effort will eventually support 100 million customers.

The price tag for the project, which includes the development of a database that will serve as a "gold copy" of customer information, is estimated by analysts to be more than \$50 million.

The MetLife project is part of a bigger trend among insurance companies toward becoming full-service financial services organizations that can compete with banks and securities firms that have been offering similar products to consumers.

MetLife is using middleware to consolidate customer data from more than 30 business systems owned by companies that it has acquired during the past several years. Such an approach is cheaper than developing a new centralized database, and it allows a company to extend the life of its legacy computer systems, according to analysts.

"It's a difference in philosophy of whether data should reside on common data structure or if you should just map to it where it already resides," said John Hagerty, an analyst at AMR Research Inc. in Cambridge, Mass.

MetLife CIO Tony Candito said the project, which was started more than a year ago, will allow the company to shift from an individual product or line-of-business model to an enterprise/customer focus. Though the gold copy database will be populated with new customer information that comes into the company, New York-based MetLife will eventually migrate legacy data into the system. The first phase is slated to go live in the first quarter, and the project is expected to continue into 2003.

"The reason we're doing this is because one of MetLife's greatest assets is its several data warehouses," including IBM DB2 databases, "but none

of them were integrated," Candito said. "Having a holistic view of the customer provides to the service or [sales and] marketing organizations opportunities to recommend appropriate products to customers that they don't have that would better service their needs."

Chuck Johnston, an analyst at Meta Group Inc. in Stamford, Conn., said he has seen nearly a dozen Fortune 500 insurance companies take the middleware plunge during the past year, including Hartford Life Insurance Co. and Chubb & Co.

"MetLife is a mainframe-class IT shop, but you can't host this on a mainframe because there's not enough [CPU]

availability," Johnston said. "Also, MetLife is in so many different businesses that there is no one application to manage all the policies that MetLife sells. Once you put this middleware layer in, it covers a number of applications," including



**TONY CANDITO:**  
Integration will enable better service.

systems used to support life insurance, mutual funds and annuities activities.

MetLife is using an IBM Shark storage system to store the gold copy of the customer data. The middleware system, which is being powered by an IBM RS/

6000, is supplied by Toronto-based DWL Inc. Customer transactions from MetLife's back-end and customer relationship management systems will flow through DWL Customer software to provide a

real-time copy of all customer information enterprise-wide.

David Corrigan, product marketing manager for DWL Customer, said an XML interface based on the Association for Cooperative Operations Research and Development's (ACORD) emerging standard for life insurance will allow MetLife's systems to talk to one another.

"We have our own XML standard, and then one layer above that, we have a translation piece," Corrigan said. "For example, it can translate ACORD's [Life Data Model] standard. That way we can accept multiple industry standards and don't have to change our product."

Candito said the return on investment is "good enough" that CEO Robert Benmosche — a former IT executive himself — wants to continue with the project. Candito added that the ROI will be derived from "things like once-and-done servicing, the ability to consolidate statements... and the ability to cross lines of businesses to generate [sales] leads."

## Financial Firms Say Decentralized Systems More Secure

BY PATRICK THIBODEAU  
WASHINGTON

Decentralized systems, such as those used by electronic communications networks (ECN) to trade securities, are a good model for protecting computer systems from catastrophes such as the Sept. 11 terrorist attacks, financial executives told a U.S. House subcommittee in late December.

"Currently, we have a very high centralization" in security trading, said Kim Bang, president of Bloomberg Tradebook LLC, a New York-based electronic brokerage. "I think it would behoove the industry to have more than one hub. And ECN, certainly, is a venue

[that's] well suited."

Appearing before the Subcommittee on Commerce, Trade and Consumer Protection, Bang and other executives testified on the impact that the terrorist attacks have had on the communications infrastructure.

ECNs bring security traders together without a middleman; buyers and sellers can meet electronically through private networks that can be located anywhere. Increased use of decentralized systems "could help in the future to absorb shocks," said Joel Steinmetz, senior vice president at New York-based Instinet Corp., which operates an ECN.

Internet traffic went uninterrupted after the terrorist attacks on the U.S., and the Internet-like structure of ECNs drew the attention of the subcommittee.

"An ECN is not unlike the Internet in that it provides a platform that allows perfect strangers to enter from anywhere and meet in an anonymous environment," said committee Chairman Rep. Clifford Stearns (R-Fla.).

A problem that affected Instinet and other businesses after Sept. 11 was the destruction of Verizon Communications' telecommunications facilities in lower Manhattan, which knocked out phone service.

Catherine Kinney, a vice president at New York Stock Exchange Inc., said debate should focus on the issue of telecommunications connectivity "and ensuring that in the future there are alternatives and contingencies well planned for."

Steven Randich, CIO at Nasdaq Stock Market Inc. in Washington, said, "It's critical to understand that disasters such as these are not averted by hardening a single point of failure. They are avoided by having resilience built into the network and backup connections and backup vendors. This is the key [IT infrastructure] lesson from this tragedy." ■





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# CIA-Backed Analysis Tool Eyed for Passenger Checks

*Reservations company hopes technology can help identify suspected terrorists*

BY JENNIFER DISABATINO

**D**ATA ANALYSIS software backed by the CIA and used by some casinos to catch gambling cheats is now being tested for its potential to detect suspected terrorists and their associates when they make airline, hotel or rental-car reservations.

One of the four companies that operate major computerized reservations and global distribution systems has spent the past three months installing the software, which searches transaction data for nonobvious relationships. A working prototype of the application was due to be completed in late December, ac-

cording to an IT manager at the reservations company.

The IT manager, who spoke on condition of anonymity to protect the secrecy of the project, said his company wouldn't have bought such software prior to the Sept. 11 terrorist attacks. But after the attacks, officials decided to "go in and take the initiative to start plugging the [security] holes" in the reservations system to help prevent similar attacks from being carried out, he said.

The software, developed by Las Vegas-based Systems Research & Development Inc. (SRD), is supposed to clean up incorrectly entered data and search for possible connections between airline passen-

## Looking for Clues

*Examples of the kind of data matches SRD's nonobvious relationship analysis software, or NORA, was designed to uncover:*

■ **Recognizing** that the names Rick and Richard in passenger profiles could refer to the same person. SRD said the software can match a root name such as Richard with all its other forms, such as Rick or Ricardo, across 40 languages.

■ **Flagging** the possible transposing of digits within passport or credit card numbers. The technology can highlight numbers that almost match ones on government watch lists as suspicious.

gers and suspected terrorists on government watch lists. SRD said it can check a passenger's name, address, phone number and other identifying information against those of people who are believed to be terrorists.

The technology can also search for close variations, such as transposed digits within a driver's license number,

and detect whether a passenger lives near a suspected terrorist by using latitudinal and longitudinal coordinates, SRD said. Development of the software is being partially funded by In-Q-Tel Inc., an Arlington, Va.-based private-sector venture capital firm that the CIA set up in 1999.

The screening application generally runs in batch mode,

said Timothy O'Neil-Dunne, a consultant at Tampa, Fla.-based T2Impact Ltd., which was hired by SRD to help with the ongoing installation. But for bookings made within 48 hours of a flight or a hotel stay, the software spools out customer records from IBM mainframe-based reservations systems and analyzes the data in near real time, he said.

At the company that's testing the software, the latter kind of data analysis is expected to take 30 seconds or less, the IT manager said. Staffers will start the testing process by running "canned data" through the software to see what connections it notices, he said. The next step will be to build business rules into the software, such as how many possible connections to a suspected terrorist are needed to flag a passenger as a potential threat and whom to notify if that happens.

SRD CEO Jeff Jonas said the relationship-analysis package was originally developed in 1983 to prevent credit card fraud and has been widely deployed in the gaming industry to track big winners and suspected cheaters as well as to screen employees and job applicants for ties to gamblers.

The largest existing installation of the software culls data from 4,000 sources with information on about 1 million people, Jonas said. The technology functions much like a smoke detector, he explained. "Not everything it finds means [there's] a fire," he said.

Even so, the ability "to do this type of nonintuitive data searching is pretty clever," said Henry Harteveldt, an analyst at Forrester Research Inc. in Cambridge, Mass. Most companies tend to look at the obvious when analyzing data and may miss potential matches that are hard to spot, he said.

However, Harteveldt said, the best use of software such as SRD's could be made by airlines, hotels and rental-car companies, because the big reservations systems are typically just conduits for information that originates at those businesses. ■

## Users: Tax Breaks Can't Jump-Start IT Buying

*Stimulus bill could return to Congress*

BY PATRICK THIBODEAU  
WASHINGTON

Congress may try again in 2002 to pass an economic stimulus bill with tax incentives to encourage companies to buy IT equipment. But the measure, which lawmakers failed to adopt before recessing in December, is far from a cure-all for the technology sector's ills, said corporate IT managers.

The stimulus package, approved in the House but killed in the Senate, offered a one-time 30% depreciation bonus in the first year of eligible IT purchases. Technology trade groups maintain that the bonus would have encouraged corporations to make equipment

purchases that they might otherwise postpone because of economic conditions as well as open the legislative door to a permanent shortening of the depreciation schedules to two or three years.

Corporate IT managers and analysts said the bonus would have been helpful but wouldn't have led to a new tech spending boom. "It's not going to be some fancy accounting" that drives business IT decisions, said Patrick Thompson, CIO at Turner Industries Ltd. "Businesses are going to buy because they need it."

Nonetheless, Thompson, whose Baton Rouge, La.-based firm is a top industrial construction company, said the bonus "will certainly help, and without it, it will hurt IT spending."

Companies presently can

write off IT purchases over five years, a depreciation schedule that critics say can last longer than the equipment.

The depreciation bonus could be revived when Congress resumes work in February. Under the failed House plan, if a computer cost \$1,000, the purchaser would be able to write off 30% of the cost in the first year, or \$300, plus 20% (the normal depreciation spread over five years) of the remaining \$700.

Analysts said the depreciation bonus by itself won't reinvigorate IT spending. "For there to be a resounding rebound in IT spending, that will take a recovery in corporate profits," said Kevin White, an economist at IDC in Framingham, Mass. That recovery should gain momentum around mid-2002, he said.

"The paralysis that we're experiencing today is going to take other types of measures to get it unfrozen," said Tom Willmott, president and CEO of Aberdeen Group Inc. in Boston. One such measure could be a capital loan program that would keep companies from having to spend precious cash resources on IT equipment and applications.

Willmott said companies facing layoffs will be carefully weighing risks and return on investment over the benefits of accelerated depreciation.

ROI is key, said Jim Prevost, CIO at Green Mountain Coffee Inc. in Waterbury, Vt. "Personally, I think the tech sector needs to focus more on real in-my-pocket return on investment rather than parlor tricks with the tax code," he said. ■

**Quick Link**

Post-Sept. 11 security bills fail to win passage in Congress. Read more at

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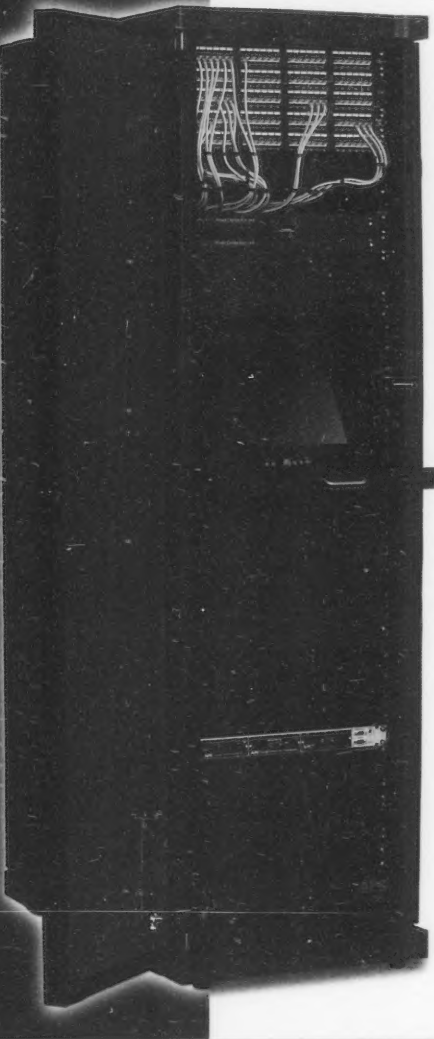
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MARYFRAN JOHNSON

# Lead With Inspiration

**L**EADERSHIP is one of those words that carry a lot of weight but can have surprisingly little substance. Many CEOs get called leaders when they are anything but. Many teams have designated leaders who merely manage. True leadership is like great art, readily recognized but not easily duplicated.

This issue of *Computerworld*, which is devoted to IT leadership, shines a spotlight on our Premier 100 IT Leaders for 2002. They are outstanding people who are leading by example, innovating in the face of recession and shaping the future of our industry. Yet what they really do best — through their stories and their ideas — is inspire. To me, that ability is far more tangible than lofty business-book concepts about leadership.

Beyond what you see in this issue, we offer a quick quiz at [Computerworld.com](http://Computerworld.com) to find out if your own leadership style pegs you as a Diplomat, a Strategist or something else. You'll find tons of useful advice from our Premier 100 members on everything from smart career steps to highly recommended leadership resources. And a "survival guide" showcases leading-edge thinking on negotiating with vendors, coping with training needs and keeping employee morale high during budget droughts.

For those who prefer to experience IT leadership firsthand, we're hosting our third annual Premier 100 IT Leaders Conference on March 3-5, 2002, in Palm Desert, Calif. Many of this year's



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honorees, past winners and IT executives will join forces there to talk strategy and tactics about infrastructure, integration, security, ROI and emerging technologies.

When it comes to inspiring would-be IT leaders and aspiring CIOs, however, the best advice tends to come straight from the source. "Develop your skills as a storyteller," recommends Tom Murphy, CIO at Royal Caribbean Cruises. "There is no more powerful way of getting a message across than through an effectively told story." (Amen to that!)

Or listen to David Hager, vice president of network security and disaster recovery at OppenheimerFunds Distributor: "Exceptional leaders are those who can inspire, who can evoke skill, desire and passion within the people around them."

Finally, consider what Craig Luigart, CIO at the U.S. Department of Education, has to say: "Never stop learning. You've hitched a ride on a discipline that changes every two to three years in ways none of us can imagine."

What an inspiring thought for the launch of a new year. ▀

100  
PREMIER  
IT LEADERS 2002

## The Stuff Of Leaders

**W**hen *Computerworld* set out to identify this year's Premier 100 IT Leaders, we revisited an age-old question: What makes someone a leader? To attempt to find an answer, Allison Wright and the rest of our editorial research department scoured leadership resources and polled our growing roster of Premier 100 alumni. We assembled a long list of characteristics of great leaders, which in turn prompted another question: Do successful leaders have all of these traits?

Not quite, we determined. But most have a good deal of them. When we reviewed the more than 200 surveys received from candidates nominated last spring on our Web site, we found that some leadership traits are clearly universal: an energy that's infused in their work, a drive that motivates the people around them, a sharpness that enables them to see big-picture business issues, and a technology mastery that helps them leverage IT systems.

Then there are the less tangible characteristics, such as knowing how to nurture a demoralized or shrinking staff, to think and move creatively in a bearish economy or to stay above water when waves of crises hit. A pretty ethereal business, this stuff of leaders.

So with the help of Aaron J. Nurick, professor of management and psychology at Bentley College in Waltham, Mass., and his colleague Susan M. Adams, associate professor and director of graduate field-based learning, we fleshed out five leadership profiles: the Coach, the Diplomat, the Strategist, the Visionary and the Innovator. Five types of leaders, each with a slightly different style, each with slightly different strengths. Then, based on their responses to eight multiple-choice questions in our survey, we listed this year's Premier 100 honorees in the profile section we believe best describes them.

Far be it from us to put our IT leaders into boxes. "As tempting as it is to place people in one of the categories, these do not represent pure types," cautions Nurick. "Most leaders will likely have a predominant approach accompanied by one or more supporting styles." For example, certain approaches may work better in different stages of a company's life cycle, he says, and can change as the company moves from a start-up to a more complex and mature structure, just as individual leaders may change their styles as they progress through their careers.

As everyone knows, it takes a mix of people to help a company succeed. Just as it takes a mix of characteristics to make a great leader. ▀

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## Notions of safeguarding only the perimeter vanished in the aftermath of Sept. 11. Staff safety and business continuity are now top priorities. By Dan Verton

**N**EVER HAS enterprise security figured so prominently, or taken its place so swiftly, in the psyche of today's IT leader. How can it not be top of mind? In 2001, the number of security incidents reported doubled from the previous year to more than 40,000, malicious worms rampaged through corporate networks and threatened to strangle e-commerce, and then, on Sept. 11, a horrific act of terrorism tore down preconceived notions about enterprise security.

This year, the book on enterprise security gets rewritten. And some of the U.S.'s most forward-looking IT security managers will be responsible for guiding their industry colleagues through the uncertain year ahead.

As in years past, 2001 was initially about perimeter defense — keeping people out of your corporate network, says David M. Hager, vice president of network security and disaster recovery at OppenheimerFunds Distributor Inc. in New York, which manages \$120 billion in assets annually. Unfortunately, security measures rarely keep people out, says Hager; a determined intruder

can always find a way into a system. Companies must instead take a layered approach that shows security administrators where intruders can go on the network once they're in and what they can do once they get there, he says.

That represents a sea change in approach for most security administrators. For Hager and other security managers, it's been like pulling teeth to get colleagues to realize that for years, they've been spending 80% of their security budgets on trying to keep people out when, in fact, 80% of all attacks originate from inside the firewall.

The overwhelming focus on perimeter defense should have disappeared on Sept. 11, along with the other misdirected security projects, says Hager.

"The same threats and vulnerabilities that existed on Sept. 10 are still there," says Hager, who safely escaped from the 32nd floor of Tower 2 at the World Trade Center in New York after the first tower collapsed on Sept. 11. "Controlling where users can go within the network has gone from a nice-to-have thing to a necessity."

Hager understands firsthand how easy it is for insider access to be abused.

During a security audit of his corporation, Hager managed to crack 800 user passwords in three minutes using a standard password-cracking tool. Within 36 hours, he was able to crack all of the 27,000 passwords being used throughout the enterprise.

### The New Take on Enterprise Security

Hager isn't alone in his belief that the IT security playing field in 2002 will be drastically different from that of previous years. The events of Sept. 11 prompted David C. John, first vice president and CIO at the New York offices of Bayerische Landesbank, to initiate a major re-evaluation of security throughout the enterprise. The bank manages more than \$250 billion annually and is the sixth largest in Germany.

"It is no longer a matter of keeping the unwanted out, but in the case where that is not possible, ensuring employee survivability to continue operations," says John. "That is true security."

In a world where disaster recovery, continuity of operations and IT security are no longer considered separate disciplines, a greater focus on people is also necessary, says John. Personnel are key to being able to conduct rapid recovery, he says.

"More attention needs to be paid to safeguarding those who keep [the] business moving," says John. "Security and recovery go hand in hand but cover a much broader scope than previously thought."

Since Sept. 11, all of Bayerische Landesbank's security directives have been squarely aimed at rapid recovery operations and expanding high-availability systems, says John. The two areas that have been given the greatest attention are redundancy and security checks and balances, he says.

"We have been planning for a major off-site location, possibly in another state, one with a separate power and communications grid," says John. "This would enable us to have the ability to do complete and near-instantaneous fail-over to continue operations in the event of a disaster."

In fact, had the bank not had a triple-redundant wide-area network in place on Sept. 11, it would have been out of business for days, says John.

Likewise, all departments have been given a key role in assessing the bank's needs in terms of operations continuity. This gives all staff a personal interest in disaster recovery, says John. In addition, operators monitor end users, security administrators monitor operators, and control personnel review all actions that take place on the network.

# Security: IT Locks Down



"THE SAME THREATS and vulnerabilities that existed on Sept. 10 are still there," says David M. Hager, vice president of network security and disaster recovery at OppenheimerFunds Distributor. He escaped from the 32nd floor of Tower 2 at the World Trade Center on Sept. 11.

The bank has also started a biometric security program to control access to its most sensitive areas.

Security no longer means one thing or one set of technologies, says John. "Many IT leaders have become preoccupied with the physical aspects of security because of what occurred on Sept. 11. This is understandable. However, I cannot allow myself that luxury," says John. "I cannot let one aspect of security be overshadowed by recent events. To do so is to invite trouble."

### Sticking With the Status Quo

But other IT leaders are satisfied with the security plans they already have in place. "We have undergone a [security] review due to the tragedy [of Sept. 11], but no changes were implemented," says W. Garrett Grainger, executive vice president and CIO at Dixon Ticonderoga Co., a consumer products company in Heathrow, Fla., best known for the yellow No. 2 pencils it makes. "We have always been security-conscious and have well-established [disaster recovery] procedures." And although a process review had been under way prior to Sept. 11 as a means to identify cost containment opportunities, the company doesn't

plan to cut back on security spending, Grainger says.

"My feeling is that nothing significant has changed" in terms of his company's IT security requirements since Sept. 11, says Randolph Smith, information security manager at Atlanta-based package carrier United Parcel Service Inc., in Mahwah, N.J. Investment in security remains steady, he says, and includes projects in enhanced authentication of personnel, tighter access control and secure corporate communications.

The value of company information also has these leaders taking a hard look at security. "Typical authentication methods that rely solely on an identifier and a password are not suitable for today's high-value transactions," says Smith. "We also want to make sure that we know all of the people who maintain the information systems."

In the end, technology isn't the only focus, says Smith. "We make sure that a technology deployment also establishes the ability to administer security credentials, monitor behavior, audit for compliance and respond to incidents," he explains.

While not everyone agrees about how much security has changed since Sept. 11 and how much it will continue

to change in the year ahead, analysts see the security landscape evolving in ways never before imagined.

Bill Malick, an analyst at Stamford, Conn.-based Gartner Inc., says he sees a renewed emphasis on business continuity, corporate provisioning, user authentication, crisis directory services, biometric security services, malicious code detection, data integrity and monitoring of the types of information released to the public.

At a congressional hearing in November, Dave McCurdy, executive director of the Arlington, Va.-based Internet Security Alliance, summed up the reality that most corporate users have come to accept. "There is no such thing as Internet security or perfect security," McCurdy told a House subcommittee. "We're great at reacting. But we're no good in a proactive sense. We have to develop more emphasis on practices that prevent and deter these attacks." ■

### Join the discussion

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## Preventing Cybersabotage

**1**  
Act, don't react. Establish a reliable system for assigning access rights for critical company data resources.

**2**  
Identify dormant user IDs and orphaned accounts.

**3**  
Automate communications among IT, human resources and other departments. Link all who are responsible for granting access rights within departments.

**4**  
Define "need to know." You can't assume that everybody should have access to everything.

**5**  
Don't forget the sharing factor. Passwords get passed around.

**6**  
Reset passwords regularly.

**7**  
Make nondisclosure policies routine. This contract should be brought to the attention of employees and business partners once a year.

**8**  
Suspend terminated IDs.

**9**  
Reconcile active IDs with reality.

**10**  
Operate out of opportunity rather than fear.

SOURCE: BRIAN ANDERSON, CHIEF MARKETING OFFICER, ACCESS360, IRVINE, CALIF.

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## CONFERENCE AGENDA

### SUNDAY, MARCH 3

12:00 pm - 5:00 pm

#### GOLF OUTING

7:00 pm - 9:00 pm

#### PRE-CONFERENCE NETWORKING RECEPTION

### MONDAY, MARCH 4

8:00 am - 8:15 am

#### WELCOME AND OPENING REMARKS



Maryfran Johnson, Editor-in-Chief, Computerworld

8:15 am - 9:00 am

#### KEYNOTE: CRAFTING IT STRATEGY IN CHAOTIC TIMES



Eric Dean, CIO, United Airlines

9:00 am - 10:00 am

#### PANEL DISCUSSION: LEARNING TO SUCCEED WITH PLAN B: IT LEADERSHIP IN CHALLENGING TIMES



Moderator: Pimen Fox, West Coast Bureau Chief, Computerworld  
Uncertainty may just be the major guiding principle in the New Millennium of the IT economy. Yet IT Leaders must be ready to respond swiftly and confidently to every crisis - despite twin-

dling resources and shifting business fortunes. How do senior IT executives stay focused on new priorities without sacrificing quality in tough economic times? How do they reinvent their IT mission and galvanize their staff for the next upswing in corporate fortunes? What are their prescriptions for a healthy IT enterprise? This panel will examine the way various leadership styles - from diplomat to innovator to strategist - have worked for some of the industries most challenged by the economic downturn.

Panelists: Roger Gray, Vice President and CIO, Pacific Gas & Electric; Deryck Jones, President, Sentech LLC; Mike Ragunas, CTO, Staples.com

10:15 am - 11:00 am

#### INTERACTIVE Q&A: NEW THINKING ON AN OLD PROBLEM: MANAGING VENDORS AND SUPPLIERS TO MAXIMUM ADVANTAGE

Moderator: Maryfran Johnson, Editor in Chief, Computerworld

The relationship between corporate users and their key vendors is often a strained affair, with distrust and disdain on both sides. Yet the need to deploy innovative, cost-effective technology solutions to specific business problems has never been more acute. How do you save your company money on an IT sourcing strategy that impresses the senior management team while preserving a good working relationship with vendors? Where do you find the levels of contract negotiating expertise your organization needs? What are the most critical skills in managing ongoing supplier relationships? This interactive Q&A will explore and deliver on the front-lines experience of a longtime senior executive consultant and a supplier management expert who comes from the CIO ranks.

Panelists: Thornton May, Chief Psychographer and Futurist, Toffler Associates; Bart Perkins, Managing Partner, Leverage Partners, Inc.

11:00 am - 12:30 pm

#### IT USER / IMPLEMENTER CASE STUDIES

12:30 pm - 1:30 pm

#### INTERACTIVE LUNCHEON



# CONFERENCE AGENDA

1:30 pm - 2:30 pm

## PANEL DISCUSSION:

### INFRASTRUCTURE: ALWAYS ON, ALWAYS UNDER FIRE



**Moderator:** Mark Hall, Editor at Large, Computerworld

Your infrastructure never sleeps, but it's keeping you up at night. That's because the Web is always on, open to users, customers and hackers, too. Your global organization never stops working, either. Planned downtime is a luxury few can afford. Not long ago, a few minutes of downtime was a user inconvenience. But now, the CFO is breathing down your neck about lost revenue opportunities. And the scope of your infrastructure keeps expanding beyond just wires and network gear. Today, it includes elaborate server and storage systems, armies of PCs, wireless gadgets, data management and business intelligence software, complex directory services, vital security systems and encroaching technologies like Web services. Our expert panel of IT Leaders will bring their hands-on experience to bear, suggesting strategies and (dare we say it) solutions to the source of so many IT headaches.

**Panelists:** Kiril Tatarinov, Senior Vice President and CIO, BMC Software;  
Bob Palmer, Assistant Vice President, Ecommerce Technology, Lenox

2:30 pm - 3:00 pm

### THE BUSINESS STRATEGY BEHIND DELTA'S IT INFRASTRUCTURE



**Curtis Robb, Chief Technology Officer, Delta Technology**

As the IT arm of \$16 billion Delta Air Lines, Inc., Delta Technology views its critical infrastructure through the lens of business as well as technology. The company strives to achieve balance between three key attributes: tracking total cost of ownership, finding a "solution that fits the problem," and accelerating time to market. In this talk, Delta's CTO will provide an in-depth look at how he supports a highly complex business driven by an infrastructure that manages 240,000 devices.

3:00 pm - 3:15 pm

## BREAK

3:15 pm - 4:15 pm

### PANEL DISCUSSION: THE HOLY GRAIL OF INTEGRATION: CRM MEETS THE SUPPLY CHAIN



**Moderator:** Cathy Hotka, VP of IT, National Retail Federation

Connecting your customer-facing systems with your back office is an ongoing goal for many IT organizations, but extending that connection from CRM outward to your entire supply chain may just be the Holy Grail for the coming decade. What can go wrong? Everything from language and protocol conflicts to security breaches, data cleanliness concerns and the perennial lack of common standards across multiple platforms. Yet on the brighter side, there are increasingly useful tools (including statistical analysis software that business people can actually use) emerging to help. This panel will explore the practical realities of collaborative planning and supply chain integration with the customer in mind.

**Panelists:** Roger Burman, Vice President and CIO, Verizon Wireless;  
Jerry Hale, Director of Global Business, Eastman Chemical Co.

4:15 pm - 5:15 pm

### PREMIER 100 "BEST IN CLASS" PROJECT WINNERS - CASE STUDY PRESENTATIONS



**Moderator:** Priscilla Tate, Executive Director, Technology Managers Forum

5:15 - 5:30 pm

## CLOSING REMARKS

5:30 pm - 8:30 pm

### EXPO OPEN, NETWORKING RECEPTION, BUFFET DINNER

7:30 pm

### "BEST IN CLASS" AWARDS CEREMONY IN THE EXPO

## TUESDAY, MARCH 5

8:00 am - 8:15 am

## OPENING REMARKS

8:15 am - 9:00 am

## OPENING KEYNOTE PRESENTATION

9:00 am - 10:00 am

### PANEL DISCUSSION: REAL-WORLD ROI



**Moderator:** Julia King, National Correspondent, Computerworld

Even with IT budgets remaining flat or declining this year, IT Leaders are under escalating pressures to show impressive returns on IT investments - and to deliver them faster and earlier in the development cycle. Some are pushing IT spending decisions higher up the executive chain to better educate the business side about the strategic impact of technology. Others are dividing large initiatives into smaller projects that must show a positive ROI before moving forward with the next phase. What really works and what doesn't? What are some real-world metrics that will convince a skeptical board of directors to invest in an IT project? Panelists will discuss innovative tactics for projecting, tracking and reporting ROI in these double-edged sword times of keeping costs down while positioning their companies for better economic times ahead.

**Panelists:** Louis Gutierrez, CIO, Harvard Pilgrim Health;  
Joan Holley, CIO, USG;  
Cathy Kozak, Senior Vice President and CIO, Tellabs;  
Russ Lambert, Director, Commerce, WESCO Distribution

10:00 am - 10:30 am

### RIDING THE REALITY ROLLER COASTER



**Tom Murphy, CIO, Royal Caribbean Cruises, Ltd.**

Few industries were struck as swiftly and severely by the economic downturn as the travel and tourism sectors. For cruise line Royal Caribbean, the downturn meant shelving a \$160 million IT infrastructure project, laying off half its 400-member IT staff and putting CIO Tom Murphy's leadership skills to the ultimate test. In this compelling personal account, Murphy will talk about how his staff has retrenched and started focusing on the future.

10:30 am - 12:00 pm

### IT USER / IMPLEMENTER CASE STUDIES

12:00 pm - 1:30 pm

### EXPO OPEN, BUFFET LUNCHEON

1:30 pm - 2:30 pm

### PANEL DISCUSSION: ENTERPRISE SECURITY - HOW MUCH IS REALLY ENOUGH?



**Moderator:** Eddie Schwartz, CISSP, Senior VP, Guardent, Inc.

Despite the ongoing economic challenges, organizations continue to spend millions cleaning up the mess made by security breaches such as Code Red, Nimda and other attacks on the IT infrastructure. How much is enough for CIOs to spend assessing risk and making computer systems safer? How much is enough information to share about security breaches with partners, suppliers, the government or the public? Are the existing security certifications and standards really enough to lead to improvements in our risk posture? Our panel will bring its expertise to bear on these questions, providing senior executives with practical answers and useful ideas to take back to their own organizations.

**Panelists:** Howard Schmidt, Chief Security Officer, Microsoft Corp.;  
Russ Lewis, Executive Vice President and CIO, ePrint Inc.;  
David G. John, First Vice President CIO, Bayerische Landesbank

2:30 pm - 3:15 pm

### PREMIER 100 "BEST IN CLASS" PROJECT WINNERS - CASE STUDY PRESENTATIONS

**Moderator:** Priscilla Tate, Executive Director, Technology Managers Forum

3:15 pm - 3:30 pm

## BREAK

3:30 pm - 4:30 pm

## PANEL DISCUSSION

4:30 pm - 5:15 pm

### CLOSING KEYNOTE PRESENTATION: FUELING THE ENGINE OF CREATION: IT AND BIOTECHNOLOGY



**Andre Mendes, Chief Operating Officer, Pluvia Corporation**

Beyond the enabling role of IT in corporate business is an accelerated journey of discovery fueled by scientific and technical advances. Particularly on the biotechnology frontier, IT is revolutionizing the way science and medical research is done. Andre Mendes, a 2001 Premier 100 honoree and former CIO of the Public Broadcasting System, has a front-row seat at the revolution from his business leadership role at biotech startup Pluvia Corp. He sees IT morphing from its infrastructure and connectivity roles into a powerful engine of creation with implications for technology executives across multiple industries. In this forward-looking presentation, he will describe a unified grand vision for IT's future and its far-reaching impacts on both business and society.

5:15 pm - 5:30 pm

### FINAL REMARKS AND CONFERENCE SUMMARY

7:00 pm - 7:30 pm

## COCKTAIL RECEPTION

7:30 pm - 9:00 pm

### GALA DINNER AND AWARDS CEREMONY



**Guest Speaker:** Thornton May, Chief Psychographer and Futurist, Toffler Associates

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# ROI: Make It Bigger, Better, Faster

Budget-conscious IT leaders learn to follow the money by aligning projects with revenue goals.  
By Julia King

**A**SK 10 IT LEADERS how they measure payback on their companies' technology investments, and you're likely to get back at least 10 different answers. But there's also a good chance you'll hear a common theme in all of their replies. Regardless of how they measure payback or the financial formulas they might apply, today's slumping economy has them under excruciating pressure to show bigger and better returns faster.

Many are responding to the demand for a return on investment by homing in on one or two critical IT projects that directly support and add value to their companies' primary business goals. In other words, they're following the money.

"At the corporate level, our [revenue] strategy is to broadband-enable customers in the wireline business and get into long distance in the nine states we serve, so our IT prioritizations are subject to those two things," says Fran Dramis, CIO and chief e-commerce officer at BellSouth Corp. in Atlanta, a \$28 billion telecommunications company serving nine states in the Southeast.

BellSouth measures the return on its technology projects strictly by the value they add to those business goals. A recent success story is its new broadband

ordering system, which significantly cut the overall business operations budget by lowering per-subscriber ordering costs by more than 50%.

Dramis says a key first step to implementing this follow-the-money ROI approach was coming up with a "technology transformation road map." Drawn by business unit presidents, the road map identifies "leverageable" systems — defined as those that the businesses need to run and enhance their revenue-generating operations.

"Nonleverageable" systems, by contrast, are legacy systems earmarked for retirement.

Previously, decisions regarding technology investments had generally been pushed down to a level too low in the company to have a direct impact on strategic business goals, Dramis says.

"I'm turning the pyramid upside down," he says. Now, for example, investments in legacy or nonleverageable systems must be approved at the most senior management level by Dramis and two other group presidents. "What I'm trying to do is raise it up to a senior level so we can understand the business impact of our technologies," Dramis explains.

## Get High-Level Approval

Delta Technology Inc., the IT arm of \$16 billion Atlanta-based Delta Air Lines Inc., has also bumped up technology investment decisions to a higher level in the corporate chain.

"We have been carefully reviewing every project and every spend with approvals at the senior vice president level. Before, we delegated decisions to a lower level," says Curtis Robb, senior vice president and chief technology officer. "Finance is also much more actively involved in business cases that are developed [for IT projects]."

Delta is also focusing on its IT infrastructure, in which it has invested more than \$1 billion in the past three years, according to Robb.

"Now, we're reviewing all projects we do in infrastructure to make sure they're absolutely necessary in terms of either lowering our operating costs or supporting new business functions going forward," Robb says.

Among the projects to take a back seat is an upgrade from Windows NT to Windows XP. Delta has also significantly tightened up accountability for the business payback of IT projects.

"Now when we start a project, we're booking the [promised] savings out of the beneficiary's budget," according to Robb. "You can't just say it's going to save you money. You actually get

signed up for the savings."

One recent example is the IT group's investment in systems management tools, which, among other benefits, will enable the automatic electronic distribution of software and upgrades.

"The business case for the project literally shows a reduction in effort to manage desktops that equates to a specific head-count reduction in the operating budget," Robb explains. "Before, there were lots of promises [of cost savings and other benefits] but not as hard a look at ensuring that they actually occurred."

"Companies can get a little bit sloppy in how they account for the results of investments," Robb acknowledges. "We're certainly homing in on that and will make it a real checkpoint. We're not doing a project unless the beneficiary is signed up for the results."

"Our pace has quickened. We're looking for better return and faster implementations," says Charles Emery, CIO at Horizon Blue Cross Blue Shield of New Jersey in Newark, which serves 2.5 million people. "We're always under a microscope. Now it's even more intense."

Ditto for Cathie Kozik, CIO and senior vice president at Tellabs Inc., a \$3.3 billion Naperville, Ill.-based communications equipment maker. "With the economy headed in the direction it is and particularly with the downturn in the telecom industry, we're under significant pressure," says Kozik. "There's certainly a renewed emphasis on 'Show me the dollars.'"

One sign of that pressure is a new and much more stringent process for proposing and gaining approval and money for IT projects.

"We have for the first time a formal analysis process where projects are compared. The other piece is we hold people accountable [for results]. In the past, we haven't gone back and done measurements after a project went live to see how much we did save or how much we didn't," Kozik says. In the past, she adds, "we went by the 'squeaky wheel' process — whoever screams the loudest gets the money."

## Gain New Customers

At First Health Group Corp., a health care insurer in Downers Grove, Ill., business results from technology projects, notably systems integration projects, are measured mainly in terms of the company's ability to attract new customers and enter new niche markets.

"Every investment is designed to gain us opportunity," says Ron Boevig, vice president of information sys-

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**THE WEEK IN REVIEW**

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"I'M TURNING THE PYRAMID UPSIDE DOWN," says BellSouth CIO Fran Dramis, explaining that he set up a system where technology investments must be approved by senior managers, "so we can understand the business impact of our technologies."

tems. "We don't do traditional ROI, but we do [analyze] return on opportunity." Moreover, since the health insurer is "a pure information company, every one of our products and services is underpinned by the IT infrastructure," Boever notes.

First Health's business strategy is to steadily expand by acquiring other companies, which necessarily involves a lot of systems integration work. Boever says the company has come up with a formula for measuring return on these integration projects based on how much they contribute to increasing customer service, which in turn, brings in new business.

"One of our main strategies is bringing world-class service to health care,"

he explains. "For us, that means when you talk to a customer service person, they will be able to answer all of your questions in one call."

Behind the scenes, what makes this possible is a system called OneSource that links 15 systems and databases and gives customer service representatives access to medical management, pharmacy, case management and any other customer information on file, all on a single computer screen.

"This integration is really part of our sales story," says Boever. He also points out that potential corporate clients are given a tour of First Health's IT facility and a firsthand demonstration of its integrated IT capabilities and how they translate into fast and

accurate customer service.

"We bring them in and show them how our infrastructure works, and it's very convincing," he says.

The proof is in the numbers: First Health, which invests 12% of its top-line revenue in IT annually and whose IT department comprises 10% of its total workforce, has grown from a \$25 million company to a \$700 million company in the past decade.

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## Three Ways to Show ROI Fast

1

Home in on a few IT projects tied to revenue-producing operations.

2

Hold individual business units accountable for booking savings into their department budgets.

3

Reduce operating budgets by projecting IT savings.

## Slow and Steady

As a financial services company, **Tyco Capital** in Livingston, N.J., knows all about reducing risk to ensure higher returns. That includes IT projects.

CIO **Robert Plante's** strategy involves dividing large IT projects into smaller pieces and measuring ROI in phases, rather than all at once at the end of what could have turned out to be a not-so-profitable venture.

"It's almost like plan, do, test, react," says Plante, who most recently applied the strategy to an implementation of a customer relationship management (CRM) system.

"With some of our e-commerce initiatives in particular, we're entering with new capabilities at a reduced scale to ensure that they are going to be successful. Then, we'll scale [future] investments based on how successful we were. What we're doing is not so much going in with guns blazing, but reducing scale to reduce risk and size out [IT] investments appropriately," he explains.

The CRM applications were installed over 18 months, with the next phase proceeding once previous phases showed positive ROI.

Moving forward at a measured pace helped on the change-management front, where one of the biggest challenges was bringing along users whose only experience was with the 15-year-old system the CRM applications replaced. Many had no experience on anything else, Plante says.

"Charging ahead too quickly" on any large-scale technology project is a pitfall to avoid, Plante says. "Having gone through a number of large-scale projects, it's not hard to leave folks behind, but when you do, it's death," he says.

— Julia King

These projects are unpleasant, inevitable and put huge pressure on IT teams. But when done right, they can eliminate redundancy and pay off big.  
By Mark Hall

**D**EATH. TAXES. IT integration projects. Few things are more certain on life's road. The CIOs who drive massive, ambitious and sometimes scary integration projects need to be take-charge individuals with loads of technology and management experience who are willing to take risks but know when to stop racing ahead. They also need to have a keen understanding of the business in order to earn the trust of everyone involved.

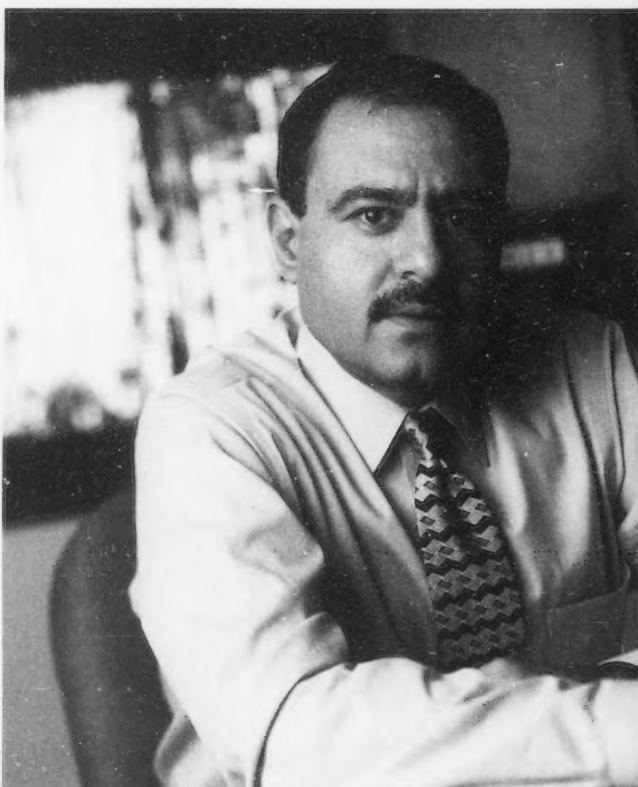
"The first thing to consider with an integration project is the potential disruption to the business," advises Roger Gurnani, vice president and CIO at Bedminster, N.J.-based telecommunications provider Verizon Wireless, a subsidiary of Verizon Communications.

Rob Carter, executive vice president and CIO at shipping giant FedEx Corp. in Memphis, agrees. "It's riskier integrating internal business functions, such as here at FedEx Ground or FedEx Freight, because integration between them might hurt business performance, because IT has been optimized for [that particular] business," he explains.

These CIOs must confront what Jonathan Eunice, an analyst at Nashua, N.H.-based Illuminata Inc., calls "a key value of IT that has been around for decades and will be around for at least another 10 to 20 years: interoperability and integration."

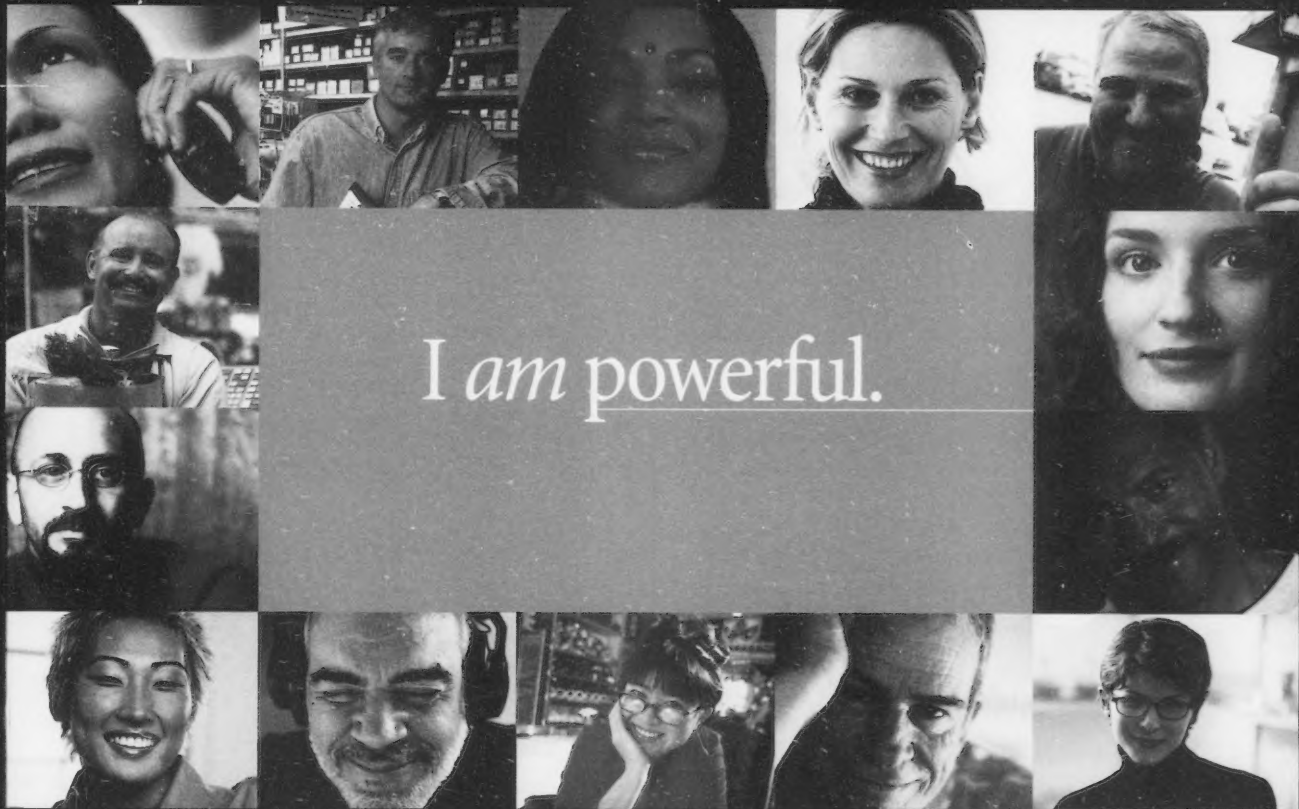
According to Eunice, there are many reasons behind integration projects: mergers and acquisitions, a realignment of departmental responsibilities

*Continued on page 24*



ROGER GURNANI, CIO at Verizon Wireless, says his 15 years of integration experience gives him the confidence that his staff will get the job done.

# Integration: IT's Albatross



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# Integration

Continued from page 22  
and technological change, to name just a few. But the primary reason, he says, "is because business value is about having systems that work in concert."

## Pulling It All Together

Eliminating redundancy in IT operations was a core concept behind the final merger in April 2000 of nine companies' sprawling wireless businesses that came together to form the 28 million-customer operation of Verizon Wireless. Now the nation's largest wireless telecommunications company, Verizon Wireless generated more than \$14 billion for its parent in 2000.

"Integration was needed to deliver the synergies and to leverage the economies of scale," says Gurnani, who reports directly to the CEO, Dennis Strigl.

The nine companies used more than 150 major applications for billing, inventory, point of sale, financial management, customer care and all other aspects of business. Gurnani's team has consolidated that number to 70 within 18 months, with an end goal of 25 to 30 core applications. Concurrent with that effort has been data center consolidation work and the development of companywide standards for desktops, e-mail and wide-area network services.

"We're not all done, but we've made significant progress," Gurnani says. Many CIOs would be daunted by the project's scope, but Gurnani says his 15 years' integration experience from other mergers and acquisitions while an executive at Bell Atlantic Mobile and WiTel (now WorldCom Inc.) gives him the confidence that his staff will get the job done. He also says his experience means he knows the risks and how to create a "rigorous methodology" — a kind of project management checklist to get past the pitfalls that he has fine-tuned over the years.

Although it's important to be comfortable discussing all levels of technology changes during an integration, Gurnani says, IT managers should be focused on business users during these projects because "it's not just the technology, but the business processes that are changed." For example, during any application change, he has made sure that subject-matter experts were on hand with IT staff to handle any concerns from end users even after they'd

gone through extensive training.

Ed Winfield echoes that sentiment. As CIO at F.X. Coughlin Co., a \$300 million shipping company in Southfield, Mich., Winfield recently oversaw a major overhaul and the integration of the company's supply chain applications. He says it's natural for people to get comfortable with old ways of doing things that may be inefficient. It's the CIO's job to improve the processes while updating the technology. For example, Winfield recalls that his company once had 107 codes for freight designations. It now has three.

"A lot of people were entrenched in the way things were done. They took pride in knowing all the codes," he says. "And they worried that change would jeopardize customer service."

To get them on board, Winfield led a relentless communications campaign, keeping people who would be affected by the changes informed "while we were in process, not after the fact."

## Driven by Business Goals

Even without the obvious prompts from a merger, business managers often demand that IT initiate an integration project. That's what happened at Newberg, Ore.-based A-dec Inc., a leading supplier of dental equipment that recently tied together its enterprise resource planning and sales forecast applications.

"We were spending an extraordinary amount of money on overtime in manufacturing because of inaccurate forecasts," says B. Keith Bearden, A-dec's director of information services and CIO. "We had the dollar forecasts right, but we had the product mix wrong."

Top management wanted to correct the problem and looked to Bearden's team to improve the timeliness of data from field sales. The result has been an impressive reduction in sales lead times by two months and a 20% to 25% decrease in overtime.

But even with enthusiastic buy-in from all departments and top management, Bearden notes, you can't assume that you know exactly what people want, nor can you assume that a particular improvement will be considered the right one. For example, field salespeople will want reports designed to illuminate regional or even customer-specific information, while in-house sales managers will want reports designed with more aggregate information.

Bearden says IT can do only so much, especially at the start of an integration project, so you have to be prepared to disappoint some folks. "You can never

satisfy everyone," he observes.

Although improving business with technology is the common denominator in any integration project, you have to be careful not to push the envelope beyond what the organization can handle, warns James Jackson, vice president and CIO at \$650 million Intertape Polymer Group Inc. in Montreal.

As a result of a handful of acquisitions and the subsequent systems integration and consolidation, Jackson's staff had the opportunity to push technological advances beyond the norm.

"We had to come to closure on the most important changes before we dropped more on people," he recalls. "We were bringing together six different corporate cultures and introducing change initiatives at a very high rate. With so much change, people were beginning to lose sight of their responsibilities."

Being sensitive to an organization's ability to absorb change makes you a more credible leader, Jackson notes.

And as FedEx's Carter observes, "During an integration project, trust starts with the CIO." ■

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# A Leader's Guide to High Anxiety

## WHEN SUBTLER, LESS IMMEDIATE

forces require a business process change that impels IT to integrate systems, diplomacy skills come in handy for a CIO as much as communications skills.

At State Street Corp. in Boston, which manages \$663 billion in assets annually, a cornerstone application needed to be changed to prepare the bank for the impending T+1 government rules. Those mandates require financial institutions to process securities trades within 24 hours of a transaction, down from the current three working days.

John Fiore, the bank's CIO, was given the task of leading the project, which ultimately automated many manual tasks. The changes made departments nervous because a variety of details in a typical transaction need remediation after the fact.

For example, the business rules for funds dispersal of a given client after processing a transaction might vary from one class of assets to another — say, from U.S. securities to derivatives. Historically, only highly trained

individuals understood the distinctions.

Anxiety about automation among business managers ran high, Fiore says, which he never discounted. "It was a fundamental change to the way of doing business," he points out.

To get people comfortable with the upheaval caused by T+1 automation, Fiore made sure the integration between the core transaction mainframe and the Unix processing systems was bulletproof. Along the way, he conducted numerous modeling sessions with business managers to run through how transactions would flow through the new system, and he listened carefully to their concerns.

Then his staff established a series of operational run-throughs with different user interfaces until everyone was comfortable. Then there were dry runs. By the time the integration work was done and the cutover to the new system was made, everyone was comfortable with the new process, Fiore says.

— Mark Hall

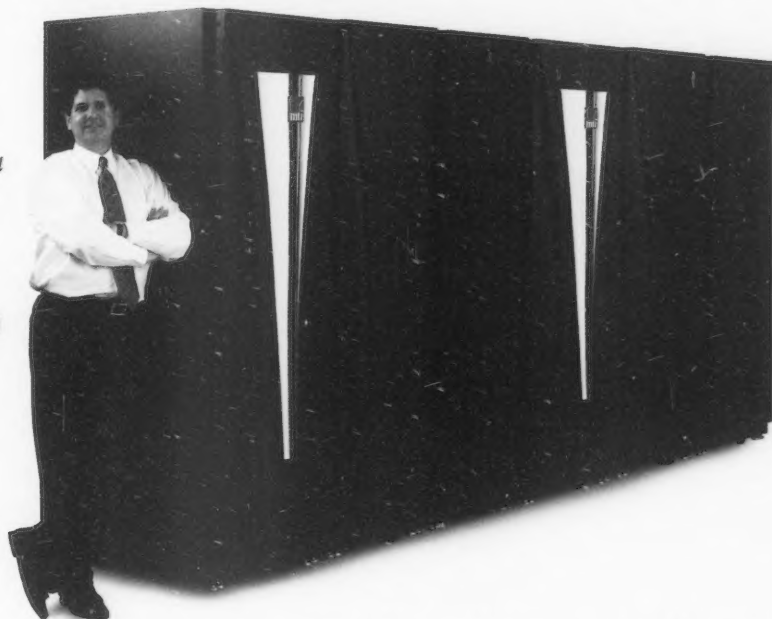


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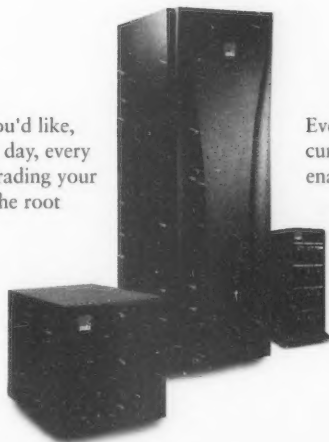


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# Infrastructure: Back to Basics

**With big IT spending behind them, IT leaders plan to tweak and optimize what's already in place rather than build out new capabilities. By Jaikumar Vijayan**

**F**ORGET ABOUT MAJOR e-commerce build-outs or fancy infrastructure projects with bells and whistles for 2002.

The big IT spending of the past few years — projects such as Y2k remediation, Web-enabling legacy environments and e-commerce applications — is history. Instead, 2002 is shaping up to be a year of hunkering down and consolidating, say IT leaders. A sagging economy and previous investments in Web-based applications, among other factors, have these leaders focused not on adding major new capabilities in 2002, but on tweaking and optimizing what's already in place.

Take Royal Caribbean Cruises Ltd., the country's second-largest cruise company, for example. Before a severe spending cutback triggered by the events of Sept. 11, CIO Thomas H. Murphy had planned to spend this year piloting a high-flying \$180 million overhaul of the \$3 billion company's entire IT infrastructure.

Among other things, the effort was to have yielded new reservation, customer information and supply chain systems running on a diverse new architecture comprised of mainframes, Unix servers, Windows boxes and soft-

ware from several vendors. The goal was to improve the bottom line by cutting costs, improving processes and giving the company a more comprehensive view of its customers in order to better sell to them.

But the priorities for 2002 suddenly changed when a post-Sept. 11 spending cutback forced the Miami-based company to shelve the project in mid-September and lay off nearly half its 400-person IT staff.

Now, the agenda is to do whatever it takes to keep the business running on Royal Caribbean's aging and nearly maxed-out systems, Murphy says. That includes making small infrastructure enhancements and upgrades where necessary, cutting overhead where possible and rolling out small application integration projects designed to break down the information silos that characterize the business today, he says.

"Even though we are not going to be executing on incredibly exciting projects, we want to be the best at whatever it is we are charged with doing," Murphy says.

Glenn Palmiere knows the feeling. As CIO at G. Pierce Wood Memorial Hospital in Arcadia, Fla., Palmiere's immediate challenge is to keep the hospital — one of four state-run men-

tal health institutes — running optimally in the midst of project- and morale-busting budget cuts.

Palmiere's IT unit recently implemented an automated browser-based system that allows hospital staff to access admission, discharge and patient history data from any computer at the hospital. Among other things, the system has sped up information access and reduced the need for the different types of training previously required to access such information.

Palmiere and his team were about 20% of the way to rolling out a similar Internet-based system connecting the other Florida hospitals when the budget cuts came. Now the challenge is to finish the project with fewer employees and a freeze on new hardware spending.

"Providing the same or better levels of service with less money" is clearly going to be challenge No. 1 for 2002, Palmiere says.

To keep up with service demand, Palmiere and his team are developing more applications that automate tasks previously handled by staffers. The added work has had a demoralizing effect on the remaining employees, he says. "The need to keep my staff continuously motivated has really taken a toll on my marketing skills," he says.

The key is to keep in constant and open communication with employees. Explaining the critical nature of their tasks and stressing the importance of staying focused on the job at hand is crucial to keeping morale up during tough times, says Palmiere.

But a dismal economy is hardly the only reason some CIOs say they will be focusing on the technology they al-

## PREMIER 100CHALLENGES

27



"WE WANT TO BE THE BEST at whatever it is we are charged with doing" - even if the projects aren't very exciting these days, says Thomas H. Murphy, Royal Caribbean's CIO.

ready have rather than on building new functionality. Others who spent big in past years will be protecting and maximizing those critical investments.

Knoxville, Tenn.-based Plasti-Line Inc. has spent the past two years building Web applications that allow customers and business partners access to its systems for tasks such as order verification, checking project status and

requesting quotes. The \$150 million company is the nation's largest manufacturer of illuminated signs, with customers that include General Motors Corp. and Honda Motor Co.

As part of its Web effort, Plasti-Line has developed individual online catalogs for each of its major customers. Sign-installation companies can now access data on all jobs coming their

way and upload photos to show proof when an installation is completed.

The new capabilities have enabled Plasti-Line to cut the time it takes to complete these tasks and reduce communications costs, says Steven T. Hammond, vice president of information services. The task at hand is to ensure the continued robustness of the underlying infrastructure that supports this new functionality.

"We are stepping back [from any major new build-out]," Hammond says. The effort now is to "stabilize some of the hardware issues and upgrade versions of software" to ensure optimal performance, he says. "The issues all have to do with reliability, scalability and responsiveness."

It's crucial for companies to focus on infrastructure robustness, especially those that have opened up their internal systems to access by customers, suppliers and business partners, says Steven J. Matheys, senior vice president and CIO at Schneider Logistics Inc., a \$2.5 billion transportation logistics management company in Green Bay, Wis.

The company, whose customers include Wal-Mart Stores Inc. and Chrysler, has spent the past two years Web-enabling nearly every core aspect of its business. Everything from order offer and acceptance to pickup, delivery, billing, payment and reporting to tracking Schneider's huge fleet of tractors and trailers is now done online. Schneider's new site also offers electronic ordering, billing, price quotes and shipment tracking information for not only its customers, but also for customers of other carriers that contract with the company.

The project has resulted in improved customer satisfaction, efficiencies and lower costs, Matheys says. It has also allowed Schneider to expand its reach and supplier base, he adds.

Now that the system is built, the team must ensure that the underlying infrastructure scales well enough and is reliable enough to handle the new capabilities.

"As opposed to previous years where the focus was on building new functionality, hardening the infrastructure is what will dominate my time next year," Matheys predicts. ▀

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## Divvying Up The Workload

**KEEPING THE INFRASTRUCTURE** humming isn't going to be easy, especially in an environment where budgets are tight and the emphasis is on justifying every nickel spent on IT projects, say several users.

Infrastructure technology issues are so complex and interdependent that sometimes it can be a struggle just to identify the issues that need to be resolved, says Bob Palmer, vice president of Lenox Collections IT at Lenox Inc., a Lawrenceville, N.J.-based maker of tableware and giftware. Here are three tips for getting by on a tight budget.

1

#### IDENTIFY YOUR BUSINESS'S CORE

**COMPETENCIES:** "The biggest pitfall is to try and do everything yourself," especially in areas that aren't your core competencies," cautions Palmer. The important thing is to properly identify the issues that need to be addressed right away, make a business case for them, figure out how much can be done internally and be prepared to seek outside help if needed, says R. Bruce Johnson, director of information services at New York-based law firm Robinson Silverman Pearce Aronson & Berman LLP.

2

#### CHOOSE OUTSIDE HELP THAT UNDERSTANDS YOUR BUSINESS:

"My advice is to use consultants, but use them sparingly," says Johnson. Work with firms that understand both the technology needs and the specific business context in which the technology is being applied, he advises. Use them for strategic planning and for developing an overall sense of what needs to be done, he says.

3

#### TIE BUSINESS VALUE TO TECHNOLOGY

**PITCHES:** It's also important to emphasize business value when pitching infrastructure projects, says Bill York, chief technology officer at Comergent Technologies Inc. a Redwood City, Calif.-based software developer.

"The key is not to go to people with a technology pitch but with an ROI-based approach," York says. "If you meet resistance, get up, walk to the other side of the table and see what the other person's priorities are."

- Jaikumar Vijayan

**Gaining companywide support for new initiatives is never easy. IT leaders say nothing works better than a rock-solid knowledge of the technology and face time with end users and executives alike. By Mary Brandel**

**F**ACE TIME. Trust-building. Risk-taking. Team-building. These are the activities IT leaders need to engage in if they want new technology projects to succeed. According to IT leaders, it's not just a matter of evaluating the technology and technology providers — although that, too, comes strongly into play. It's just as important to rally end users around the project, gauge which risks are worth taking and never stop communicating with everyone involved.

Take Phil Go, for example. It's a good thing Go made the rounds with the construction managers, architects, engineers and consultants at Barton Malow Co. before, during and after implementing the company's Internet-based project management system. By making sure everyone was on board from the start, the CIO at the \$1 billion construction firm in Southfield, Mich., didn't have to quell a revolt when the system's speed initially proved disappointing. In fact, he could show users that the technology was something they didn't want to live without.

#### Bounty of Benefits

With the new system, a workflow-based application hosted by an application service provider (ASP), subcontractors around the country can access their projects over the Web, make decisions and move projects forward. For example, a construction manager in Baltimore can get clarification on drawings from an architect in San Francisco in a matter of days, compared with up to two weeks on the old system.

Two years ago, when Go's group was designing the system, ASPs were new and considered somewhat risky, espe-

cially in the technologically stodgy construction industry. Even then, however, Go's group understood the power of using the Internet as a collaboration tool. "We knew it would provide us with first-mover advantage," he says.

But Go had to put in some effort before the rest of the company shared his vision. Communication saved the project. "The performance of the system is not what people are used to," he acknowledges. "Sometimes you get [good response time], and sometimes you don't, and that's the way it is."

But it wasn't terribly difficult to soothe users' frayed nerves. After all, Go had spent a lot of time meeting with the leaders of each operating group and with workers at individual job sites, educating them and gaining their buy-in. He had earlier conducted exhaustive evaluations of the system with individual groups and educated them on the merits and constraints of Internet-based systems.

So after the rollout, when performance proved less than ideal, he hit the streets again. "We conducted a survey that asked, 'At the end of the day, are you better off with or without the system?'" Go says. "All but one user said they would not know what to do without it. They realized that despite the shortcomings, it can still help in terms of making decisions faster and ensuring the accountability of how decisions are made."

In fact, just over a year into its implementation, the system has reduced the time it takes to make decisions by one-third to one-half. "Time equals money in construction," Go says, adding that the shortened cycle times are expected to affect the company's competitive positioning, and, ultimately, its revenue.



BARTON MALOW CIO Phil Go met often with users to teach them the value of a new tool.

# New Technology: Covering All the Bases



Even in these tough economic times, when some companies have delayed buying computers, evaluating technology is still an everyday stress for many CIOs, particularly those under increased pressure to do more with less through technology.

"[Evaluating new technology is] not a one-off thing that occurs occasionally. Companies have to organize the resources they have at hand to do this on a continuing basis," says Jay Williams, chief technology officer at The Concours Group in Kingwood, Texas. He recommends setting up a process to keep pace with new technology, understand its impact on existing architecture, monitor expected benefits and develop tools to measure whether it's actually achieving goals.

### Building Trust

But what if your company simply doesn't want to assume the risks inherent to being on the cutting edge? Then, says Douglas T. Jones, CIO and vice president of enterprise information systems at Cedars-Sinai Health System in Los Angeles, the largest nonprofit hospital in the western U.S., the most important task before embarking on a new-technology project is gaining the trust of your company's leadership.

In 1998, Jones met with "a great deal of resistance" from doctors when he presented them with the idea of implementing a Web-based system that would enable 4,000 clinicians, nurses, allied health officials and physicians to access clinical data via computers. But from Jones' perspective, "we understood the technology well enough to understand the risk. At the time, the Web browser was still fairly new, but we were confident that it would be around for quite a while."

Part of the trust-building job was establishing a strong reputation for understanding technology and for being judicious about adopting it. "You have a checkbook of risk," Jones says. "If you spend it all at once, you're done for a while." So Jones and his group chose some very small, simple projects they could pull off quickly to solve some immediate problems for people.

Putting the system together piece by piece helped build trust in another way. Though the system ultimately cost \$3 million, price wasn't a factor because "we never asked for a huge investment at once," Jones says. "We got something out there quickly that people could use and added more gradually." The first piece was a simple browser interface that could search one existing data store. Over time, the group added more

data sources, for a total of 50, saving the most challenging ones for last.

Last, Jones held focus group sessions with the opinion leaders among the physicians to make sure the application supported their practices. "If they wanted a change, we made it quickly and made sure they were aware of the changes," Jones says. When choosing the focus group participants, "we didn't want to get the most technologically knowledgeable people," Jones says. "It's much more convincing if you can get people who aren't real technology adopters."

In the end, Jones says, "people were pretty delighted." Although it's difficult to quantify the hard-dollar payback, the system gets more than 25,000 hits a day, and it has allowed physicians to respond to clinical issues much more quickly than they once did. "If a physician has a patient who needs to be in intensive care, he can monitor progress by accessing data at home or in the office," Jones says. "I've had physicians tell me they've accessed the system from Internet cafés in Europe."

In addition to building trust, Jones points out another leadership skill that's often neglected by CIOs: being technologically savvy. "Board members will come up with questions that are technically difficult, but you have to answer them in layman's terms, so you have to understand it at a deep level," Jones says. "I make a real effort to keep up, through reading, talking to people and going to events."

### Walking the Talk

Being tech-savvy is especially important when evaluating new technology in today's climate, where software vendors come and go and you can get stuck holding a technology bag that you have no idea how to use. In times like this, says Dave Moellenhoff, CTO at Salesforce.com Inc., a privately held ASP in San Francisco, you have to rely on your own technology know-how.

A year ago, Moellenhoff's company needed to improve the search capability on the customer relationship management system it offers to customers on an ASP basis. "There was definitely a perception that we needed to go with a known name because of concern for supportability and the reliability assumption that comes with a name like AltaVista or Autonomy," he says.

Moellenhoff, however, was focused on the technology, not the vendor name, and was convinced that a small firm, San Francisco-based Ripfire Inc., had the right technology. "I requested API documentation to get a better un-

## Four Ways to Mitigate Risk

1

**ESTABLISH CODE ESCROW AGREEMENTS IN CASE THE VENDOR GOES UNDER.** "While we don't want to be in the business of maintaining a search engine, we could if we had to," says Dave Moellenhoff, chief technology officer at Salesforce.com. "If they go under, we will get the code and have the rights to maintain it."

2

**REALLY GET TO KNOW THE VENDOR.** "We met with the leadership of our ASP and got a good sense of their business plan, their other clients, their business practices," says Phil Go, CIO at Barton Malow. "You learn a lot of things that you wouldn't be able to get your arms around until you physically sit down and meet over a series of days."

3

**DEVELOP A PILOT SYSTEM FIRST.** "It's easier to get people to accept technology if you have a rollout plan," Moellenhoff says. "Our plan was to roll out one small piece of the new system and put it into production for four months and become confident that it works in a limited way. Then we would roll it out to everyone."

4

**CONSIDER WHETHER YOU CAN SUPPORT THE SYSTEM YOURSELF.** "People are increasingly looking at the financial stability of companies in the wake of the dot-com fallout," says Jay Williams, CTO at The Concours Group. "They're making more standards-based decisions, based on conformance to skills and architectures that they already have, so they can complete the project themselves if they had to."

— Mary Brandel

derstanding of the system internally and had our developers give their own assessment of that," he says. In Moellenhoff's opinion, good technology survives, even if the vendor doesn't. "If it's really a better search technology, another vendor will recognize it, buy the technology cheap and incorporate it into their own product."

Armed with his beliefs, Moellenhoff countered the known-vendor argument by sharing his vision and explaining how putting code into escrow would help Salesforce.com keep the search engine running, even if Ripfire went under. "There were things we wanted but Ripfire didn't have, but I assured them the vendor could do it by a certain date. It helped allay their fears," he says. The important thing, he says, was doing the research and taking a stand based on it. "They give you more latitude than if they think you're making something up," he says.

As it turns out, small was the way to go. While it's hard to tie the new search capabilities to revenue, people are happy with them, according to customer satisfaction surveys. "There have certainly been fewer requests to do searching better," Moellenhoff says. And when Salesforce.com ran into scalability problems, Ripfire came on-site and quickly figured out the problem. "With a larger vendor, we'd probably have to rely on consultants to fulfill that role," Moellenhoff says.

In the end, successful IT leaders understand that the key to evaluating and implementing new technology is building and sharing your vision with the rest of the organization. "You need to be a good team builder and see things from more than one point of view, not just your own," Go says. "At the end of the day, end users make things happen, and they can make things not happen. We have to constantly make sure there's a vision that's shared among all entities." ▀

Brandel is a freelance writer in Newton, Mass.

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# The Coaches

## What Makes Them Tick

**THEIR STRENGTHS:** These leaders know the importance of teamwork, mentoring, and soliciting and incorporating the ideas of others. Coaches typically look to expand opportunities for their staffs and are vigilant about developing future leaders to strengthen the organization and enhance loyalty and retention. These leaders help those who work with them understand the company's business mission and often share meaningful insights, ideas and knowledge to help guide their staffs. Often serving as role models, coaches help their staffs develop their careers and foster communication throughout their organizations. They keep employees motivated by encouraging a can-do attitude on the individual level. This can increase the abilities of the organization as a whole and enable execution of the company's mission. Coaches

work better one-on-one and out of the limelight, often in private sessions.

**BEST SCENARIO:** Coaches are the perfect leaders for organizations full of young employees or people new to the industry.

### PROFILE

**POSSIBLE CHALLENGE:** Because coaches tend to work better at developing individuals, they could overlook larger issues of strategic direction.

**SUPPORT NEEDED:** Coaches will be more effective if they have help from Visionaries or Innovators to make sure big-picture, forward-thinking issues aren't ignored.

TENET HEALTHCARE CORP.

## Stephen F. Brown

*Empowering people to meet goals*

Coaching teams to the successful completion of projects has two benefits, says Stephen F. Brown of Santa Barbara, Calif.-based Tenet Healthcare Corp.: It gets the job done on schedule, and it fosters a warmer workplace.

"Helping people be successful is a good way to ensure that you enjoy where you work," says Brown, 45, executive vice president and CIO at the \$3.3 billion health care provider. Successful people are happy people, he explains, and "happy people make great employees — they're more creative and more fun to be with."

But Brown isn't stepping into every quagmire to solve problems for his IT staff, which is based in Dallas. He's a watchful steward, not a hand-holder. When a team shows signs of getting off track, Brown says, his role as coach is to empower them to create their own success, to make them feel they're in control of their own destiny.

Recently, a project team was grouching about the end-user steering committee missing a key project deadline for producing policy and procedure documentation for a new application, Brown says. The team members felt that nothing could be done, that the problem was out of their hands and

that the project would be unavoidably delayed.

Brown got the team members to focus on how they could transform a perceived failure into a success, renewing their sense of ownership and their commitment to completing the project on schedule.

"You have to assess the creativity and aggressiveness with which they are trying to solve the problem at hand; do they have a winning attitude about it and multiple ideas about how to get there?" he says. "And then make sure they have adequate resources to get the job done."

Brown authorized the team to draft an initial document for the steering committee to review and edit. He also brought in external consultants to help with the draft. With a working document in place, the steering committee in turn felt empowered to complete the policy and procedures.

"You want to breed a culture where success is expected," Brown explains. "If you have that organizational mindset, then people are a little more inclined to be open to your suggestions about what you might want them to do next, because they see that you want to help them and guide them in a positive way vs. guiding them into something against their will."

In terms of career coaching, that means identifying individual talent and matching it to a specific IT need, Brown says. When a staff member's talents are unleashed for the benefit of the organization, the potential for success is a given.

For example, a programmer in the cost accounting systems department had demonstrated a facility for problem-solving and working with end users. Recognizing that his personality would be an asset to intradepartmental projects, Brown championed that person's move to head up a workflow applications initiative.

Alan Cranford, vice president of operations at Tenet Healthcare, describes Brown's management style as "comfortable and productive," adding, "He's encouraging and supportive of his staff but also gives them autonomy. He sets the vision and expects his staff to execute it."

— Leslie Jaye Goff  
lgoff@ix.netcom.com

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"YOU WANT TO BREED A CULTURE where success is expected," says Stephen F. Brown, executive vice president and CIO at Tenet Healthcare Corp.

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**Michael Agens**  
*Showing return on investment*

The Sept. 11 tragedy has forced many businesses to resort to new technologies, offering an opportunity for managers such as Michael Agens to exercise leadership.

A videoconferencing project at Linens 'n Things Inc. in Clifton, N.J., had been placed on the back burner before the attacks, but it "quickly became a very high priority to ensure employee safety by reducing travel," says Agens, 32, support services and systems integration manager.

It took technical know-how to spec-

out the videoconferencing gear, but to show its value to top management, Agens orchestrated demonstrations with the help desk to show how different network bandwidths would affect video quality and what capabilities PC spreadsheet collaboration could offer.

The presentations worked so well that management authorized a doubling of the number of videoconferencing sites. The project cost \$100,000, but it should pay for itself in a year due to reduced travel costs and expanded corporate training, Agens says. "Showing return on investment is how I deal with finance people," he says. "That's how you overcome resistance to projects."

Leadership on IT projects

is somewhat different from coaching his staff, Agens says. "I inspire my staff by making work fun, and I try to challenge them at all times," he says.

Technicians enjoy the monthly technical roundtables that Agens devised for them to share their personal tips for solving IT problems, says Peter Toth, a junior PC analyst who attends the meetings.

"Trying to get a bunch of tech guys to share is like asking a chef to give up a trade secret... but Agens has been absolutely great," says Toth.

One reason: Agens worked out a prize with the team for the technician with the most tips and roundtable contributions at the end of the year.

— Matt Hamblen

TEMPLE UNIVERSITY'S  
FOX SCHOOL OF BUSINESS**John DeAngelo**  
*Teaching a new way of thinking*

A teacher's style is his trademark. So when John DeAngelo, associate dean of IT at Temple University's Fox School of Business in Philadelphia, introduced the idea of electronic teaching in late 1998, he had to bring teachers along slowly to this new way of communicating with students.

Following academic protocols, DeAngelo, 58, attended committee and faculty meetings to discuss their needs and then later to show faculty how e-learning tools would enhance — not

change — their individual styles.

"We had an award-winning teacher in legal studies who was particularly skeptical that a student laptop program would improve the nature of her type of learning," DeAngelo says. "So we showed her how you can use these laptops to share learning, get immediate feedback and even improve student writing."

That once-skeptical professor has become the de facto spokesperson for the new e-learning program, says Mike Leeds, associate professor of economics at the 30,000-student university. And students love the program just as much, he adds. They don't want to give up their laptops even for needed maintenance, says Munir Mandviwalla, chairman of the MIS unit at Temple. Mandviwalla led the classroom-

preparedness program and is now launching wireless student networking in one of Temple's schools of business. "This is all John's vision," Mandviwalla says. "Students are more productive because they can instantly share information between themselves and instructors, conduct Web searches and hold live-chat classroom discussions."

And as the new department has swelled to 700 students, DeAngelo recently acted on a new idea: Offer students the chance to work on real computer servers and workstations for internship and thesis projects.

Critical to his effectiveness is a grounding in the mind-sets of faculty and students he serves, DeAngelo says, adding, "Everything we do is part of the education process."

— Deborah Radcliffe

## SENTECH LLC

**Deryck G. Jones**  
*Learning to lead by learning to listen*

He rides a Yamaha VStar 1100 motorcycle, is a former U.S. Marine staff sergeant and invented the first robotic machine control system for doing heavy construction using a road excavator. But when asked how he's learned to be a better leader, Deryck G. Jones, former group vice president and chief technology officer at London-based international public relations firm OneMonday Group PLC, gets a little emotional and speaks about his son who has Tourette's syndrome.

"Being with him taught me how to be patient and interact with people in all kinds of situations," says Jones.

Jones says that he's learned to shed the tough-guy persona he acquired in the Marines and that he's now keenly aware that people have things going on under the surface that a good coach must recognize.

"I used to think just being good at my job was enough to be a leader, but there's a level of sensitivity you need because people are going through all kinds of things — divorce, financial hardship — that affect their work," says Jones.

The jobs for Jones, 44, have varied.

Earlier in his career, he ported a Honeywell database system to a Sanyo Electric Co. Icon system, integrated a 40-seat Novell Inc. system into a 400-

seat Honeywell environment and configured statistical multiplexors linking four locations.

At Spectra Precision (now a unit of Sunnyvale, Calif.-based Trimble Navigation Ltd.) Jones rescued a project to build the first Windows-based land survey system that had gone through two project managers, was behind schedule and was blowing a hole in the budget.

Now he's about to start a new job as president of consultancy Sentech LLC. But don't look for run-of-the-mill leadership from Jones. He credits his first boss — Robert Daube, owner of Falls Church, Va.-based Washington Diamond Co. — with a lesson he still uses: "When you're talking, you're not listening."

— Pimm Fox

**100**  
PREMIER  
**IT LEADERS 2002****THE COACHES****MICHAEL AGENS, 32**

Support services and systems integration manager  
Linens 'n Things Inc., Clifton, N.J.  
**CAREER HIGHLIGHT:** In 1998, was the team leader for Calvin Klein Cosmetics Co./Unilever PLC and responsible for preparing three sites and 450 users for the implementation of a new computer infrastructure (servers, workstations and printers).

**JOE BARON, 40**

Network technology architect  
The Prudential Insurance Company of America, Roseland, N.J.  
**CAREER HIGHLIGHT:** Part of project team for Prudential's Catastrophe Response Unit, a state-of-the-art mobile office that responds to the sites of natural disasters. Developed the wired and wireless communication systems for the unit, which was dispatched to the scene of the 1999 Oklahoma City tornado.

**RONALD BOEVING, 59**

Vice president, information systems  
First Health Group Corp., Downers Grove, Ill.  
**CAREER HIGHLIGHT:** Won support for a total infrastructure plan that replaced hardware, databases and applications to be consistent with new company directions. First Health has since made three acquisitions and integrated them into new infrastructure, achieving significant economies.

**STEPHEN F. BROWN, 45**

Executive vice president, CIO  
Tenet Healthcare Corp., Dallas  
**CAREER HIGHLIGHTS:** Deployed one of the first IBM/Microsoft PC-based management systems at a nationwide company. Currently implementing a strategy to reposition IT infrastructure to deliver mobile and secure IT capability to more health care workers.

**JOHN DEANGELO, 58**

Associate dean for IT  
Temple University, The Fox School of Business and Management, Philadelphia  
**CAREER HIGHLIGHT:** An original member and founder of a universitywide consortium of technology users and planners responsible for strategic planning since 1994.

**MALCOLM C. FIELDS, 39**

Vice president, CIO  
HON Industries, Muscatine, Iowa  
**CAREER HIGHLIGHT:** Completed turn-around of the IT department in 18 months as manager of IT infrastructure at HON. In 2000, appointed as the company's first CIO.

# The Diplomats

## What Makes Them Tick

**THEIR STRENGTHS:** These leaders get along well with many different types of people throughout departments and levels within a company. As people with excellent interpersonal skills and an easy-going manner, Diplomats are able to keep their teams satisfied and motivated to achieve company goals. Typically on the front lines along with their staffs, Diplomats are involved in the day-to-day work to make sure projects are completed on time and on budget. These leaders are part of the action and are able to get resources to their employees because they understand the needs of the IT department. Employees know and trust that these leaders will support them. Diplomats are good at mediating conflict and disputes by carefully listening to many people and many sides of an issue and finding the common ground. By doing this, Diplomats minimize distraction from the organization's mission-critical work.

**BEST SCENARIO:** Diplomats are skilled at anticipating and preventing destructive political gamesmanship and work well in forging joint ventures. They're effective working with strong egos; in companies with diverse interests such as large, established firms; or in companies with large groups of autonomous workers.

### PROFILE

**POSSIBLE CHALLENGE:** Because Diplomats focus on keeping the peace, this style could stifle or impede impassioned ideas and innovations perceived as potentially disruptive for continued organizational growth.

**SUPPORT NEEDED:** Diplomats may clash with strong Innovators, who may neglect the value of established personal relationships but need their help or the help of Visionaries to make sure the organization's mission is constantly re-evaluated.



"I TREAT PEOPLE AS I WOULD LIKE TO BE TREATED: open and honest and candid," says Pacific Gas & Electric Co. CIO Roger Gray.

PACIFIC GAS & ELECTRIC CO.

## Roger Gray

### Communicating in a time of crisis

"We have so many projects, and any of them is large enough in itself to be a challenge in a stable environment," says Roger Gray, vice president of information systems and technology services and CIO at Pacific Gas & Electric Co. In 2001, the utility firm was anything but stable.

Poor planning by the state, deregulation of the energy market and the California power crisis of 2000 had combined to force the San Francisco-based company into the untenable position of buying power at five times the price it could charge its retail customers.

Gray, 39, took over IT just in time to preside over the power crisis and the firm's subsequent bankruptcy filing. Simultaneously, his IT team was hammering out many large and critical projects, including the integration and upgrade of two SAP AG systems.

How does a CIO play the diplomat, keeping IT staffers on top of their game while the company is in turmoil?

First, says Gray, tell the truth. "I treat people as I would like to be treated: open and honest and candid," he says. "No matter how bad it gets,

I tell them what's going on."

That made all the difference for the IT staff, says Jose Argenal, manager of SAP operations and controls, who recalls that during the height of the crisis, the entire IT department got a daily e-mail from Gray containing whatever information he could pass on. "That allowed us to get through that phase," he says. "It's the fear of the unknown that makes people crazy, and he was taking care of that."

Gray's second strategy is to put his energy where it can do the most good. "We can't control all the bad stuff swirling around us, but I try to encourage people to focus on the things they can control: their work, their projects," he says. When Gray was asked to lead the 1,000-member IT department two years ago, it was just another in a long line of hats he has worn during 16 years at the utility firm. "I'm an N.A.R. CIO — 'Not a real' CIO," he says.

Gray explains that his background is mostly business: everything from finance to marketing to research and development. "I've performed a very diverse set of jobs during my career," he says. "It's just my style to try to be as flexible as possible."

But even the unflappable Gray acknowledges that this job was a bigger challenge than most. Due to an attrition rate of 25%, morale was "pretty bad" when he took over IT, he says. He turned that around with a combination of incentive arrangements, salary boosts, rewards and recognition, emphasis on training and development, and — perhaps most important — a reason to perform well.

"I tried to give the department a sense of why they existed," he says. "I'd explain the objectives of our core business and how they support it."

Despite the crisis environment, Gray cut attrition in half. He also kept IT projects on time and on budget while reducing spending by about 15%.

Gray says his life as a CIO has taught him to follow his own advice: "Focus on the things you can control, so you don't burn out. Try not to let the things you can't control worry you too much."

He's also learned to say no. "In retrospect, I'd try not to bite off as many projects as we're doing," he says. "But my staff is truly amazing."

— Kathleen Melymuka

### Think you might be a Diplomat?

Your interpersonal skills could be used for business gain. Take our quiz online at

**QuickLink** [www.computerworld.com/q/a1350](http://www.computerworld.com/q/a1350)



# PREMIER 100PEOPLE

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## INVENSYS SOFTWARE SYSTEMS

### Cora L. Carmody

*Knowing when to hold your ground*

When business decisions get tough, that's when Cora L. Carmody, CIO and vice president at Herndon, Va.-based Invensys Software Systems, is in her element.

"[If] in the face of a crisis, [your leader] does something that's positive, then you'll be more willing to work for that leader," she says. "I think a leader has to do all they can to build up those around them." Her first task, she says, is to encourage her team to do its best and give positive feedback.

For Carmody, 44, those beliefs have led her through her career, starting in 1978 at the former PRC Inc., a global systems integration and services company, where she worked her way to the CIO spot in 1996.

One of her toughest management decisions came at PRC when her boss, the CEO, wanted her to outsource IT management to a hand-picked vendor, without an industrywide search. Carmody said no and firmly but diplomatically held her ground, leading to a long and challenging review process that eventually resulted in the company choosing a different vendor. "It was difficult at the time because he was the CEO, and I was the CIO," she says.

"The basic leadership skill

that helps me solve business problems is having a positive attitude," Carmody says. And if her ideas hit a brick wall the first time she voices them, then it's time to ease up and give them time to simmer. "You have to realize it may take some time and relax if you don't succeed at first," she says. It's not always been an easy lesson for her to learn, she says, adding that she's often had to remind herself to be patient

when trying to steer a project in a particular direction.

One of the more than 100 workers Carmody supervises says, "She's a very open person to have a discussion with," and she "takes the best out of what people are saying" to help make decisions.

— Todd R. Weiss



## GENESEE & WYOMING INC.

### Mike Meyers

*Using the power of persuasion*

Since Mike Meyers became vice president of information management and technology at Genesee & Wyoming Inc. in September 2000, his biggest ongoing challenge has been convincing business managers of the value of the firm's IT infrastructure investments.

When the Greenwich, Conn.-based operator of short-line and regional railroads migrated from an earlier version of Great Plains Software Inc.'s financial system to a newer version, it was fairly easy for Meyers to quantify the cost savings in terms of how the

\$206.5 million company could better track and measure its financial and operational progress. But when he tries to explain to executives that having good file servers is important for the business, "it's hard to justify," he says.

Fortunately for Meyers, who spent most of his career in the semiconductor industry, he's good at drawing simple analogies that business managers can relate to. File servers, says Meyers, 47, "are like the cinderblocks of the basement. If you don't have a good, strong foundation, it doesn't matter what you want to do with the house on top."

He's also brought some needed discipline to how Genesee & Wyoming determines and justifies its IT spending requirements.

For example, before Meyers

came on board, "a lot of [business unit leaders] seemed to think if they wanted to buy something in the IT area, they'll just go ahead and do it, because they have their own capital. Mike stripped them of all that," with backing from the company's CEO, says Dave Malay, vice president of transportation operations for the company's New York and Pennsylvania region.

This knack for diplomacy has earned Meyers respect from staff and management alike. "Mike came out and said, 'If we're going to spend money, we're not going to spend money on 15 different architectures. We are not going to have 2,000 different licenses out there.' It was a pretty bold thing for an IT guy to do," says Malay.

— Thomas Hoffman



## MARCUS & MILLICHAP REAL ESTATE INVESTMENT BROKERAGE CO.

### Rick Peltz

*Keeping pace with market speed*

Everything was moving quickly at Marcus & Millichap Real Estate Investment Brokerage Co. in 1998 when Rick Peltz left his consulting practice to head its IT department.

The Encino, Calif.-based real estate investment firm was expanding rapidly (it reached \$6 billion in sales in 2000), and its Novell systems were maxed out. Peltz's job was to deliver a scalable system to give brokers access to

real estate information — fast. He and his team settled on a proprietary intranet-based application running on Windows NT.

Diplomacy was key to bringing the executive team and 600 broker agents on board with his new system — and helping them accept its limitations. For example, when a Web-based listing service went live four years ago, agents wanted more data types (pictures, financial projections, due diligence information and more), which couldn't be supported by 56K bit/sec. modems.

Diplomats never use the word no, says Peltz, 44. But they can use the term wait, which he did by showing brokers the efficiency costs. Two years later, Peltz says he was faced with another "wait" scenario when home-

based brokers wanted virtual private network (VPN) access.

"We had to make sure all our security software and checks were in place," he says. "But if we don't provide good service for our agents, they'll go to work for another broker. So we did our due diligence as fast as we could and brought the VPN system online in about 60 days."

The system continues to expand Web-based delivery of content and services, says Bill Millichap, the firm's chairman. "Rick's had to sell his technology as something that will help our brokers make more money," he says. "Rick knew that took speed, reliability and the vision to bring us incremental along."

— Deborah Radcliff

# 100 PREMIER IT LEADERS 2002

## W. GARRETT GRAINGER JR., 50

Executive vice president, CIO  
Dixon Ticonderoga Co.,  
Heathrow, Fla.

**CAREER HIGHLIGHTS:** Implemented a satellite WAN in 1987 for the real-time acquisition of data. Completed restructuring of a major automobile rental company's IT.

## DAVID C. JOHN, 47

First vice president, CIO  
Bayerische Landesbank,  
New York

**CAREER HIGHLIGHT:** Private meeting with retired Gen. Colin Powell prior to receiving IBM's Excellence Award in 1998, which honors individuals who demonstrate achievement in the field of business continuity.

## DERYCK G. JONES, 44

President  
Sentech LLC, San Francisco  
**CAREER HIGHLIGHT:** At Todd Pipe and Supply Inc. in Buellton, Calif., ported a Pick database from a Honeywell system to a Sanyo Icon system, integrated a 40-seat Novell network into a 400-plus-seat Unix environment and configured the statistical multiplexers linking all four company locations in a single weekend.

## RUSS LAMBERT, 43

Director, e-commerce  
WESCO Distribution Inc., Pittsburgh  
**CAREER HIGHLIGHT:** Helped chart the technology course for a \$4 billion company, filtering out the hype of the past several years to build a prudent but proactive strategy.

## RUSS LEWIS, 42

CIO, executive vice president  
GFinet Inc., New York  
**CAREER HIGHLIGHT:** Completed integration of the FENICS product suite into GFinet's technology and business strategies and installed an architecture that will be the basis for all future product development.

## GLENN PALMIERE, 38

CIO  
G. Pierce Wood Memorial Hospital,  
Arcadia, Fla.  
**CAREER HIGHLIGHT:** Recognized by the state of Florida with a record 14 Davis Productivity Awards, given by the Florida Tax Watch for achievements in efficiency that have resulted in direct savings to taxpayers.

## JACK J. SANTOS, 46

Director, IT and facilities  
Bowstreet, Portsmouth, N.H.  
**CAREER HIGHLIGHT:** Implemented a daily valuation system for pension funds, which at the time was one of the most advanced fund systems for a financial services company.

# The Diplomats

## KEYCORP

### Bob Ricker

#### Keeping lines of communication open

Sometimes, leading an IT department involves a little selling. There are customers to satisfy, investors to please and an IT team to motivate.

Bob Ricker, chief technology officer at Cleveland-based KeyCorp, a group of bank-based financial services companies with assets of about \$84 billion, does a little of all that. His job is to keep KeyCorp competitive in a highly competitive market. To do that, Ricker and his team continually benchmark the company, first by comparing it to its competition using outside consultants and then by reviewing individual projects and looking at bids from companies that do the same work. "We currently have a focus on improving our development methodology as a consequence of a



recent review," he explains.

"You have to have salesmanship to help show the IT staff why we are doing certain projects," says Ricker, 42. He says he does this by thoroughly explaining the project to the entire team and letting the business benefits sell the project. "This helps in the buy-in to the project and [enables] buy-in to aspects that the team might not initially want to do," says Ricker. "I think the key to making the projects work is overcommunication and unrelenting commitment."

To ensure success, Ricker holds weekly review meetings with his eight-person team to look at the previous week's problems, decide what changes need to be made and review all current and future project plans.

"[Bob] is very clear on what we need to accomplish and the direction where we need to go, which he also requires from all of his reports," says Bob Dutile, senior vice president of enterprise architecture at KeyCorp.

— Allison Wright

## MARCONI CORP.

### Gary W. Sprague

#### Allowing employees room to grow

For Gary W. Sprague, managing is really about relationship-building.

As director of IT at Marconi Corp., a London-based telecommunications firm with \$9.9 billion in revenue in its 2000 fiscal year, Sprague says he builds those relationships with his staffers by being upfront and allowing them the space to do their jobs.

"You need to explain to people what their responsibilities are and that you are relying on them and their judgment," he says.

Sprague, 48, who joined Marconi four years ago, says his people are one of his greatest assets. He says he hires talented professionals, trains them and finds them a niche to help them grow. "The ultimate goal is to allow them to use their creativity," he says.



When solving problems or disputes, Sprague first gets the facts from his technicians and then "pulls everyone involved together to hash it out."

This approach keeps it professional, allows everyone to confront the situation and ultimately "allows the knowledgeable people to come up with a solution," he says, adding, "If you have a problem with me, then I have to come talk with you. I need to see you face-to-face and see what the problem is."

Outside his department, relationship-building continues to play a role. Every six weeks, Sprague surveys his end users and the customers they service to measure satisfaction and determine how his team can improve.

Sprague says he has learned three key lessons since becoming a manager: to pay attention to detail, learn to motivate his staff and resolve conflicts. "You have to [know] how to resolve conflicts," he says, "because if you don't, you've really got a problem."

— Mari Keefe

## KIRK SWILLEY, 42

CIO, City of Wichita, Kan.

**CAREER HIGHLIGHT:** As director of international IT at Wichita-based Koch Industries Inc., led effort to establish IT capability to support Koch's new ventures in non-U.S. markets.

## ED WINFIELD, 43

CIO, F.X. Coughlin Co., Southfield, Mich.

**CAREER HIGHLIGHT:** At Fairfield, Conn.-based GE Lighting, was selected to visit Asia to develop a systems strategy and given global responsibility when GE Lighting purchased Tungsram Lighting in Hungary in 1989.

## THE DIPLOMATS

### SUNNY BALIJEPAI, 31

Vice president technology and co-founder Half.com Inc., Plymouth Meeting, Pa.

**CAREER HIGHLIGHT:** As co-founder and CTO at Half.com, assembled a team from scratch and designed and implemented a service that became one of the highest-trafficked sites on the Internet in record time.

### MARK H. BROOKS, 41

Project team manager TIAA-CREF (Teachers Insurance and Annuity Association College Retirement Equities Fund)

Charlotte, N.C.

**CAREER HIGHLIGHT:** As president of NetWare Users International's (NUI) North American region, led a restructuring by reincorporating it as a not-for-profit by moving from a volunteer-driven organization to a staff-driven one, hiring its first staff, instituting a board-governance system and revamping how NUI board members were selected.

### BARBARA BUECHNER, 47

Senior manager, information security

Merck-Medco, Fair Lawn, N.J.

**CAREER HIGHLIGHTS:** At a major banking institution, was able to correct 95% of items cited in an FDIC audit in three months; attained Certified Information Systems Security Professional certification.

### CORA L. CARMODY, 44

Vice president, CIO

Invenys Software Systems, Herndon, Va.

**CAREER HIGHLIGHT:** Improved turnover rates in department from 39% in 1996 to single digits in 2000.

### NICK FARSI, 48

Senior vice president, CIO

Interland Inc., Atlanta

**CAREER HIGHLIGHT:** While at Atlanta-based BellSouth Corp., led the development of a fully integrated customer relationship management system that supported 6 million customers and reduced billing costs by more than 50%.

### JOHN A. FIORE, 50

Executive vice president, CIO

State Street Corp., Quincy, Mass.

**CAREER HIGHLIGHTS:** Developed computer simulations for the U.S. Department of Defense;

developed new core accounting system at Cambridge, Mass.-based Bolt Beranek and Newman (now BBN Technologies); developed State Street Corp.'s award-winning customer service center system for 401(k) clients.

### ROGER GRAY, 39

Vice president, IS and technology services and CIO Pacific Gas & Electric Co., San Francisco

**CAREER HIGHLIGHTS:** Stabilized IT organization by reducing attrition from more than 20% to about 8%; reduced IT spending by about 15%; developed better links and processes to tie IT and business together; kept major projects on time, on budget and on scope.

### B. GORDON GREEN, 53

Vice president

The Bank of New York Co., New York

**CAREER HIGHLIGHTS:** To prepare for the Bank of New York/The Irving Bank Corp. merger, learned PC and client/server operations in the late 1980s to be on the forefront of technology. Now on the technology infrastructure committee.

### DAVID M. HAGER, 51

Vice president of network security and disaster recovery

OppenheimerFunds Distributor Inc., Englewood, Colo.

**CAREER HIGHLIGHT:** As an IT consultant at a major airline engine manufacturer, built an international information security system that saved a \$5 billion contract and enabled business contracts with national government agencies.

### JOHN MARIANO, 33

Senior vice president, IS

Academic Management Services Swansea, Mass.

**CAREER HIGHLIGHT:** Oversaw the implementation of a fully integrated e-commerce setup for an organization within eight months, which increased of product sales and came under budget by approximately \$500,000.

### STEVEN J. MATHEYS, 42

Senior vice president, CIO

Schneider Logistics Inc., Green Bay, Wis.

**CAREER HIGHLIGHTS:** Helped build a large-scale batch mainframe processing shop at Nielsen Media Research Inc.; converted a legacy mainframe and Unix client/server architecture and organization to a component-based, Web-native Java architecture for mission-critical business applications at Schneider National Inc.

### PAUL MCKEON, 45

Partner, chief e-business officer Ketchum, Atlanta

**CAREER HIGHLIGHT:** Designed and implemented Ketchum's digital strategy, a comprehensive knowledge management, collaboration and portal system.

### MIKE MEYERS, 47

Vice president, information

management and technology Genesee & Wyoming Inc., Rochester, N.Y.

**CAREER HIGHLIGHT:** Worked through LISP vs. Prolog language debates during the 1980s' expert/knowledge-based systems era. At a previous job, installed an ERP system just prior to Y2K.



# The Future of PSA ... Today

## *Not just for professional services anymore*

As the saying goes, "wasted time is wasted money." Professional services organizations, which generate revenue through billable hours, have been quick to grasp that fact. Increasingly, many have turned to Professional Services Automation (PSA) software to curb the waste and increase profitability.

But today, PSA is about streamlining service delivery—and it's not just for professional services organizations. In fact, internal IT departments and other internal service departments also are realizing the importance of services automation because it helps them achieve two seemingly conflicting goals: improving service and internal client satisfaction while also increasing efficiency and productivity.

In a recent report\*, the Aberdeen Group noted that Professional Services Automation "is becoming the enterprise

solution through which every operational parameter of services-based organizations will be managed, monitored, controlled, measured, reported, benchmarked and improved—in order to achieve optimum operational productivity and profitability."

PSA provides the tools to streamline time and expense collection and processing, increase resource utilization, reduce administrative costs and provide accurate billing or chargebacks. It also opens the way for increased electronic collaboration with internal and external clients, strategic partners and subcontractors.

A successful deployment of PSA applications ultimately results in a more profitable organization. Current PSA users



expect improved management effectiveness, better resource utilization, and improved forecasting of workloads and resource availability, according to Aberdeen. It's about improved operational visibility leading to bottom-line results.

**INCREASE**  
resource utilization\*  
**8.1%**  
investment  
**PAYBACK™**  
**1.36 months**

- Reduce unaccounted time
- Reduce time and expense processing
- Increase resource utilization
- Improve executives' understanding of their business
- Reduce administration costs for non-billable resources
- Increase project effectiveness

\*Professional Services Automation: End-User Research Study, Aberdeen Group, November 2001

## Lawson PSA's Bottom-Line Impact

Lawson maximizes ROI by integrating its services automation front-office functions with back-office applications, such as financials and human resources software. This allows project time and expenses to be reported directly to accounting for faster and more accurate processing of billing or chargebacks and improved financial accountability.

It's no longer front office or back office. You get the whole office. As Aberdeen reports, with Lawson, "Finally, best-of-breed front-office meets best-of-breed back-office."

That's the Lawson advantage. Lawson's open architecture delivers a services automation solution that can be quickly and cost-effectively integrated with

an organization's back-office systems. With this package, organizations can easily forecast, calculate and report the rate of return on their professional workforce.

Lawson also provides solutions tailored to your industry. For more than 25 years, Lawson has been matching products to our customers' individual needs. In fact, the Aberdeen report found that compared to all other

competitors in the study, Lawson was more likely to exceed the expectations of its PSA customers.

In its report, Aberdeen writes, "Lawson has the right vision—and now the right solution—to excel in the PSA market." To find out why, and obtain Lawson's PSA Success Kit—including an upcoming Aberdeen white paper on PSA—contact us at 800-477-1357 Ext. 850 or [www.lawson.com/success850](http://www.lawson.com/success850).



# The Strategists

## What Makes Them Tick

**THEIR STRENGTHS:** Strategists are systems thinkers who establish a method for achieving a vision and maintain a focus on the big picture. These leaders know the mechanics of how to achieve goals from start to finish. As the first people to recognize the needed alignment between IT and larger business goals, Strategists were also among the first to get seats in the boardroom and use them to promote IT strategies and goals. Strategists are the ones who devise and implement a well-thought-through plan.

**BEST SCENARIO:** Strategists are the people you turn to when you need to organize a fast-growing firm. They're often the most effective entrepreneurs because they can see the vision, as well as the way to achieve it. More likely, a Strategist may be the second CEO of a start-up, brought in by venture capitalists to create an organization around

the original entrepreneurial vision. They're seen as the leaders who can pull it off after people have become excited about the idea.

**POSSIBLE CHALLENGES:** Because of their big-picture and systems point of view, Strategists may seem removed from or unconcerned about individuals or the quality of relationships throughout the company. Their bias toward methodical analysis and systematic solutions may impede the Strategists' ability to react in quick or novel ways.

### PROFILE

**SUPPORT NEEDED:** Strategists need to be balanced by Diplomats or Coaches in order to maintain motivation and morale. Support from Innovators may be needed when they have created large-scale systems that confine quick reactions to evolving events.



WALT DISNEY WORLD

## Roger Berry

*Leading change by listening*

Everyone knows Walt Disney World is fantasy rides and entertainment. But the company also runs golf courses, cruise ships, restaurants, clothing shops, retail stores, hotels, conference facilities, campgrounds and a zoo.

Located in Lake Buena Vista, Fla., Walt Disney World is a multimillion-dollar conglomerate with a single IT department to support it. And that IT group, which now numbers close to 700 employees, faced some ugly problems two years ago.

IT was losing people faster than other parts of the company, and the turnover rate was rising. Few standard work processes or methods for handling routine tasks were in place. The group was inefficient.

"IT didn't have a bad reputation, but it wasn't a reputation that said, 'Hey, when IT gets hold of this, it will get done,'" says Roger Berry, 52, who took over as CIO in March 2000.

Before joining Walt Disney World, a subsidiary of \$25 billion The Walt Disney Co., Berry was CIO at Campbell Soup Co. in Camden, N.J., for four years. Prior to that, he had spent 13

years in the IT department at Tenneco Energy Corp. in Houston, rising all the way to the CIO slot.

He's a Texan known as a manager who listens, welcomes dissent and then brings order to get things done.

Berry spotted Walt Disney World's problems right away. But he hung back. Over the years, he says, he's learned that it takes some artful marketing to make complicated projects successful. His plan was to seed the ground with the notion that IT had to transform drastically but not actually ask anyone to change. At least not right away.

"I knew three months after I came here where I wanted this organization to go," Berry says, "but I didn't tell anybody except [company] President Al Weiss."

With his staff, Berry's seeds were in the form of questions. "With this business plan of ours, where do you think IT demand will go?" he asked, knowing the obvious answer was "up, up, up."

Berry then let the issue lie, and came back three weeks later with more specific inquiries about why the application development process wasn't uniform across the department, for instance, or about missing standards for project management. "That was my way of getting them to think something has to change. When you do that, one day, the lights just come on," he says.

Today, Berry's group has a single project management method and vocabulary, based on guidelines from the Software Engineering Institute. Status reports are in a standard format and are therefore more easily interpreted.

"This is a creative company. One of the biggest things I've tried to impart is structure," he explains. "Processes should be repeatable, controlled and refined."

As for the turnover problem, Berry put together a team of managers "to tell me what I needed to change." Then he took action.

Jobs were retitled — project leaders became project managers, for example. Some salaries were raised. A new career development and training program is under way. Turnover is down.

"Roger really has energized this group. There's a lot of pride," says Allen Fazio, Walt Disney World's director of IT.

— Kim S. Nash

"THIS IS A CREATIVE COMPANY. One of the biggest things I've tried to impart is structure," says Walt Disney World CIO Roger Berry.

### Think you might be a Strategist?

Your methods for achieving project goals can aid your department. Take our quiz online at

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- 8 Please indicate the Operating Systems/ Network Environments currently in use or planned for use at this entire location. (Check ALL that apply)

**CLIENT OPERATING SYSTEMS**

- ☐ 01. Windows 2000  
☐ 02. Windows 95/98  
☐ 03. Windows NT  
☐ 04. Windows CE  
☐ 05. MS DOS (alone, not with Windows)  
☐ 06. OS/2  
☐ 07. Mac OS  
☐ 08. Linux  
☐ 09. UNIX (any version)  
☐ 96. Other

None of the above ☐ 97.

**SERVER/HOST OPERATING SYSTEMS**

- ☐ 20. Novell NetWare  
☐ 21. Windows NT Server  
☐ 22. Windows 2000 Server  
☐ 24. Linux  
☐ 25. UNIX (any version)  
☐ 26. Mac OS  
☐ 27. OS/400  
☐ 29. MVS/VM  
☐ 98. Other

None of the above ☐ 99.

- 9 Please check below all the products and services that you help acquire, either through approval, planning, recommendation or specification. (Check ALL that apply)

**ENTERPRISE SOFTWARE/SERVICES**

- ☐ 01. Application Service Providers (ASPs)  
☐ 02. Enterprise Resource Planning (ERP) Suites  
☐ 03. Knowledge Management (KM)  
☐ 04. Customer Relationship Mgmt. (CRM)  
☐ 05. Groupware/Messaging  
☐ 06. Systems Management  
☐ 07. Accounting/Financial  
☐ 08. Data Mining/Statistical Analysis  
☐ 09. Data Warehousing  
☐ 10. Relational Database (RDBMS)  
☐ 11. Manufacturing  
☐ 12. Middleware  
☐ 13. Application Development Software  
☐ 14. Sales Automation/Marketing  
☐ 15. Document Management/Imaging  
☐ 16. E-commerce Solutions  
☐ 17. Transaction Processing  
☐ 18. Human Resources (HR)  
☐ 19. Computer-Based Training (CBT)  
☐ 20. E-mail/Directory Services  
☐ 21. PC Applications/Suites

**PERIPHERALS**

- ☐ 32. Printers  
☐ 33. Removable High-Capacity Storage (i.e. Jaz, LS-120, Zip, etc.)  
☐ 34. Optical Storage  
☐ 35. RAID Storage  
☐ 36. Tape Backup Systems  
☐ 37. Monitors  
☐ 38. Scanners  
☐ 39. UPS  
☐ 40. LCD Projection Devices

**NETWORKING PRODUCTS AND TECHNOLOGIES**

- ☐ 51. Storage Networking (SAN/NAS/SRM)  
☐ 52. Network Management Software  
☐ 53. Network Security Software  
☐ 54. Remote Access  
☐ 56. Switches, Routers, Hubs  
☐ 57. Thin Clients/NC

**SERVER/HARDWARE**

- ☐ 67. Storage Networking Server  
☐ 68. Application Server  
☐ 69. Communications Server  
☐ 70. Database Server  
☐ 71. File/Print Server  
☐ 72. Groupware/E-mail Server  
☐ 73. Internet/Web Server  
☐ 75. Remote Access Server

**INTERNET INFRASTRUCTURE**

- ☐ 86. Web Authoring (HTML, VRML, XML, JAVA, etc.) & Development  
☐ 87. Browsers  
☐ 88. Security/Firewall/Encryption Software  
☐ 89. Internet Service Providers (ISPs)  
☐ 90. Search Tools/Engines

None of the above (1-90) ☐ 99.

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☐ YES ☐ NO
- A3 You may receive a renewal reminder via E-mail. May we send you other information about Computerworld products or services by E-mail?  
☐ YES ☐ NO
- A4 Occasionally, Computerworld makes its E-mail list available for special offers from qualified, relevant businesses and organizations. Would you like to receive these messages by E-mail?  
☐ YES ☐ NO

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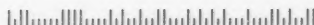
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- 2** Which of the following best describes your organization's industry or function at this location? (Check one only)

- NON-COMPUTER RELATED INDUSTRIES**
- ☐ 01. Aerospace
  - ☐ 02. Manufacturing & Process Industries (non-computer related)
  - ☐ 03. Finance/Banking/Accounting
  - ☐ 04. Insurance/Real Estate/Legal Services
  - ☐ 05. Government: Federal (including Military)
  - ☐ 06. Government: State or Local
  - ☐ 07. Health/Medical/Dental Services
  - ☐ 08. Retailer/Wholesaler/Distributor (non-computer related)
  - ☐ 09. Transportation/Utilities
  - ☐ 10. Publishing (Print/Electronic)
  - ☐ 11. Communication Carriers (ISP, Telecom, Data Comm, TV/Cable)
  - ☐ 12. Construction/Architecture/Engineering
  - ☐ 13. Data Processing Services
  - ☐ 14. Education
  - ☐ 15. Agriculture/Forestry/Fisheries
  - ☐ 16. Mining/Oil/Gas
  - ☐ 17. Travel/Hospitality/Recreation/Entertainment
  - ☐ 18. Marketing/Advertising/Public Relations
  - ☐ 19. Non-Profit/Trade Associations
  - ☐ 20. Research/Development Lab
  - ☐ 21. Business Services/Consultant (non-computer related)

- COMPUTER RELATED INDUSTRIES**
- ☐ 22. Mfg. of Computers, Communications, Peripheral Equipment or Software
  - ☐ 23. Computer Related Retailer/Wholesaler/Distributor
  - ☐ 24. VAR, VAD, Systems or Network Integrator
  - ☐ 25. Computer/Network Consultant
  - ☐ 26. Service Provider (ASP, ESP, Web Hosting)
  - ☐ 27. E-commerce/Internet and other Computer Related Business Services
  - ☐ 99. Other \_\_\_\_\_  
 please specify

- 3** What is your primary job title? (Check one only)

**INFORMATION SYSTEMS/TECHNOLOGY/ENGINEERING MANAGEMENT**

- ☐ 01. CIO, CTO
- ☐ 02. Vice President
- ☐ 16. Director
- ☐ 03. Manager, Supervisor
- ☐ 04. Other IS/IT Manager

please specify

- ☐ 05. IS/IT Staff (Including Software/Tech. Engineer)

**CORPORATE/BUSINESS MANAGEMENT**

- ☐ 06. CEO, COO, Chairman, President
- ☐ 07. CFO, Controller, Treasurer
- ☐ 08. Executive Vice President/General Manager/Director
- ☐ 09. Department Manager
- ☐ 10. Other Corporate/Business Manager (Including Mfg.)

please specify

- ☐ 11. Corporate/Business Staff
- PROFESSIONAL MANAGEMENT**
- ☐ 12. Consultant
  - ☐ 13. Systems Integrator
  - ☐ 14. Other Professional Manager

please specify

- ☐ 15. Other (Non-Manager)

- 4** What is the total number of employees at all locations in your entire organization including divisions, branches and subsidiaries? Consultants: Please answer for the number of employees of your largest client. (Check one only)

- ☐ 01. 20,000 or more
- ☐ 02. 10,000 - 19,999
- ☐ 03. 5,000 - 9,999
- ☐ 04. 1,000 - 4,999
- ☐ 05. 500 - 999
- ☐ 06. 100 - 499
- ☐ 07. 50 - 99
- ☐ 08. 20 - 49
- ☐ 09. 1 - 19

- 5** What is your organization's total annual budget for information services, including computers and communications hardware, software, consulting and services? Consultants: Please include the budget for your clients as well as that of your own business. (Check one only)

- ☐ 20. \$1 billion or more
- ☐ 21. \$500 to \$999.9 million
- ☐ 22. \$100 to \$499.9 million
- ☐ 23. \$50 to \$99.9 million
- ☐ 24. \$10 to \$49.9 million
- ☐ 25. \$1 to \$9.9 million
- ☐ 26. \$500,000 to \$999,999
- ☐ 27. \$250,000 to \$499,999
- ☐ 28. \$100,000 to \$249,999
- ☐ 29. Under \$100,000
- ☐ 99. None

- 6** For the product/service groups listed below, please indicate the annual dollar value of computing/networking/communication equipment and software/services, which YOU are currently or will be involved in purchasing.

Please write the correct letter code for the dollar amount on the corresponding line. **Note:** If you cannot distinguish between this and other location(s), put response in the first column. **Consultants:** Please include what you recommend for your clients as well as what you buy for your own business.

- |                             |                           |
|-----------------------------|---------------------------|
| A. \$250 million or more    | F. \$500,000 to \$999,999 |
| B. \$100 to \$249.9 million | G. \$250,000 to \$499,999 |
| C. \$50 to \$99.9 million   | H. \$100,000 to \$249,999 |
| D. \$10 to \$49.9 million   | I. Under \$100,000        |
| E. \$1 to \$9.9 million     | J. None                   |

PRODUCT/SERVICE	For this location	For all other locations
Electronic Commerce/Internet Business	01. _____	21. _____
Internet/Intranet/Extranet	02. _____	22. _____
LAN Hardware/Software/ Servers	03. _____	23. _____
WAN Equipment/Software/ Servers	04. _____	24. _____
Multinational Computer Networks	05. _____	25. _____
Telecommunication Equipment/Service	06. _____	26. _____
PCs (desktop/notebook/ handheld)	07. _____	27. _____
Workstations/ Servers/ Thin Clients	12. _____	32. _____
Large Distributed Systems (mainframe/midrange/mini)	08. _____	28. _____
Peripherals	09. _____	29. _____
Software	10. _____	30. _____
Systems Integrators/ Consultants	11. _____	31. _____

- 7** Please select the statements below that best describe your personal involvement in the purchase process for IT products/services (including e-business initiatives) for either yourself at work, for others in your organization or on behalf of a client. (Check ALL that apply)

- ☐ 01. Specify features/technical requirements
- ☐ 02. Evaluate products, brands, vendors
- ☐ 03. Recommend "Short List" of products, brands, vendors
- ☐ 04. Create strategy/determine need to purchase
- ☐ 05. Set budget for expenditure
- ☐ 06. Approve "Short List" of products, brands, vendors
- ☐ 07. Authorize/approve purchase
- ☐ 99. None of the above

Additional questions to be answered on reverse side. ➤

UNIVERSITY OF MIAMI,  
COLLEGE OF ENGINEERING

## M. Lewis Temares

*Focusing on student  
and faculty needs*

Lew Temares learned about customer service working in his father's grocery store in the Bronx before he was old enough to go to school.

His father taught him that no matter how small the purchase, it was satisfied customers who "fed the family every night."

Now, as vice president of IT, CIO and dean of the College of Engineering at the University of Miami in Coral Gables, Fla., Temares, 60, applies the philosophy in a much different world.

As an example, he points to the university's recent installation of a wireless cloud throughout the campus to provide "anyplace, anytime" information access to 14,500 students and 9,000 faculty, administrators and other employees. The network is unique among university wireless projects in that it was specifically designed to serve users outdoors, for anything from outdoor multimedia events to

simple Internet access for students preparing classwork while lounging on the campus green. Top university managers supported the \$400,000 initial investment, and Temares and chief network officer Stewart Seruya persuaded them to provide additional funding to extend the system, according to Seruya.

"This supplements the fiber-optic network — it doesn't replace it — and the difference is important," says Temares. "Our job is to serve people and provide as many options as our [students and faculty] think are appropriate. We're there to make technology work for people."

That customer focus, along with a view to long-term goals, works as a strategy whenever he has to make a pitch to top management, says Temares.

"I never make myself the prime sponsor of any technology project," he says. "I always go out to user groups and verify the benefits to them in the long run, and then they become advocates."

Temares' ability to serve all his dauntingly diverse constituencies — students, faculty, administrators and

upper managers — has earned him the admiration of Gerry Dana, the university's assistant vice president for applications and database management.

"[He] has taught me to be more visionary, customer-driven and not as entrenched in short-term challenges," says Dana, who has worked with Temares for more than 20 years.

Dana points out that when Temares came to the university in the early 1980s, the IT staff turnover rate was more than 50% annually. At present, the average IT worker at the university has been there for 12 years.

"He has consistently been cost-conscious but future-driven," Dana says. "This has brought him loyalty and respect."

Temares says his hiring philosophy is key to his success. "If I don't hire people who can do their jobs better than I can, then I haven't done my own job very well," he says.

And one more thing: "You also give them permission to make mistakes," Temares says. "People who are afraid to make mistakes will never try anything new and your organization will just stagnate."

— Tommy Peterson



CORNING INC.

## Richard J. Fishburn

*Creating a line of  
defense against layoffs*

To be sure that his IT department would be ready for an economic downturn, Richard J. Fishburn, vice president and CIO at Corning, N.Y.-based glass products manufacturer Corning Inc., started planning back when the economy was on an upswing.

"You plan for success, but you also take into account what happens if conditions change," he says. That's certainly been the case at Corning, which had \$7 billion in sales in 2000, as the "telecommunications depression" cuts into the company's fiber-optic product business, which accounts for 70% of its sales.

Fishburn's strategy to cope? Create "rings of defense" that include core IT employees on the inside ring, contract service providers at the middle ring and contract employees on the outermost ring. With 25% of IT workers on

contract and another 25% of work performed by shared-services contractors, Fishburn estimates that he has saved as many jobs as he has had to reduce while the economy continues to falter.

"We've been able to take the first adjustments in the [contract] employees and then work down our agreements with people on the outside," he says.

When it comes to defending IT initiatives, Fishburn, 56, says he plans ahead by aligning projects with business objectives from the start.

"We want IT people to be talking with the business team about what we are doing to increase the value of the business" and focus on projects that either make positive change in the business or help take costs out or improve asset performance, he explains.

And getting management buy-in is critical. "We're not talking about an IT project," Fishburn says. "We force the dialog back to where you have a set of joint objectives with the business team."

"Dick has done a phenomenal job of getting the IT management structure to look at what the business requirements are," says

Suzee Woods, IT director of application services.

This strategic thinking pays off in budget meetings, Fishburn says. "When you go through this short decision-making process during a downturn, you're not discussing the value of the project to the organization," he says. "They have already internalized why it's important."

Woods has seen that strategy bear fruit.

"We're implementing a major project in the financial area, and that project has stayed on the radar screen and continues to have support... because we've been able to put it in terms of value to the corporation," she says.

Fishburn acknowledges that getting technical people to discuss business rather than technology issues can be a challenge.

"There is an adjustment period people go through," he says. But ultimately, when staffers see how presenting business benefits increases the probability of their programs being successful, "you build the trust," Fishburn says.

— Robert L. Mitchell



## 100 PREMIER IT LEADERS 2002

ELLIS E. MOORE, 48

Vice president, IT  
Nobel Biocare USA, Yorba Linda, Calif.  
**CAREER HIGHLIGHTS:** Developed a process to clean computer viruses off Army computers during Desert Storm. In first job as a civilian, automated business processes to use data from SAP in a SQL-based solution.

ELIZABETH A. PAGE, 55

Director, IS  
Equiva Services LLC, Houston  
**CAREER HIGHLIGHT:** Managed creation of a new organization in a new company, including staffing and development of processes, procedures and methodologies.

BOB PALMER, 39

Vice president, Lenox Collections IT  
Lenox Inc., Langhorne, Pa.  
**CAREER HIGHLIGHT:** Created first data warehouse and intranet at Lenox; now developing first international e-commerce site.

RICK PELTZ, 44

CIO, Marcus & Millichap, Encino, Calif.  
**CAREER HIGHLIGHT:** As one of first three Microsoft-authorized consultants in the Bay area, completed an application for Pacific Gas & Electric Co. that translated data at all power plant locations to cents per kilowatt hour.

BOB RICKER, 42

CTO, KeyCorp, Cleveland  
**CAREER HIGHLIGHT:** Had the opportunity to lead the team at KeyCorp through some very challenging projects and times.

ALAN ROSA, 30

Director, NT systems and engineering  
Quest Diagnostics Inc., Teterboro, N.J.  
**CAREER HIGHLIGHTS:** Involved in the deployment of Windows NT 4.0 for The Boeing Corp. At The Hartford, the technical team was formally recognized as a finalist for outstanding achievement within IT.

ASH I. SHEHATA, 34

Director, IS and telecommunications  
Antelope Valley Health Care District, Lancaster, Calif.  
**CAREER HIGHLIGHT:** The IT department at Antelope Valley Hospital has been used as a model for other large institutions as a result of service excellence and accomplishments.

GARY W. SPRAGUE, 48

Director, IT  
Marconi Corp., Irving, Texas  
**CAREER HIGHLIGHTS:** Migrated from VMS to Sun workstations for software development, cutting costs by several hundred thousand dollars; developed seat-specific costs for each employee; and outsourced printer support.

# The Strategists

## CITY UTILITIES OF SPRINGFIELD

### Pam Armstrong

*Unraveling a problem from its core*

When managers at the City Utilities of Springfield in Missouri gave Pam Armstrong the job of senior manager of IT, they told her what they considered to be the \$229 million utility's biggest problem: Its enterprise resource planning (ERP) implementation, begun two years earlier, was still floundering.

But Armstrong disagreed. The snarled-up ERP implementation was merely a symptom of a larger problem, she told the managers.

Her recommendation: Hire a project manager for the ERP task so Armstrong could focus on changing the way the IT department operates.

"It was a real gutsy move," says Kelly Laurie, director of IT Business Consulting, a new division that Armstrong created. But her assessment was on target, he says. The ERP task was difficult "because we were traditionally a mainframe coding shop and we were struggling, trying to do the custom coding for a package system," Laurie says.

Drawing on resources she had developed in her previous position as director of employee development and safety at the utility, Armstrong, 41, got the IT staff some much-needed training, prioritized "what was wanted and what was needed," and hired an experienced project manager. "We finished the installation in the next nine to 12 months," she says.

To assess the more far-reaching problems, Armstrong began with "lots of hands-on interviews," she says.

Armstrong found that the 63-member IT staff, which supports the utility's 950 employees, had no standardized operational processes. Moreover, it didn't understand the business, and the business side didn't understand IT's role. Communication,

even within IT itself, was poor, and morale was low, she says.

The first step in Armstrong's strategic mission was to get everyone on board for change by putting together a team to devise a code of conduct.

"Everything else we did was governed by that," she says.

But it was necessary, she explains, because the goal wasn't simply to change how IT worked within the utility, "we were trying to change a culture."

"I think we had four reorganizations in the first year," Armstrong says with a laugh.

Even more controversial was her push to get leadership and technical training for her IT staffers. "[Training] opens people's minds; it gives them new skills," Armstrong says.

The IT department resisted at first, Laurie says. "We just wanted technical training," he says. "We didn't realize what skills we were lacking, like understanding that conflict isn't a bad thing — it just happens when change occurs, but if you're trained to deal with it, you can work to a common resolution."

Four years later, Armstrong's plan is in its fourth phase. IT has a new understanding of the utility's business, and the business side understands that the IT department can help the utility succeed. "We have the tools we need to work together on a strategic planning process that brings the two together," she says.

Though Armstrong's methods may have been unorthodox, she says her boss, Janice Stockham, assistant general manager of administration, supported her all the way.

"I needed someone who could align IT with business, identify communication problems and implement solutions," Stockham says. "I figured if anyone could run up against all kinds of brick walls and still succeed, it would be Pam."

— Sami Lais



#### KIRILL TATARINOV, 36

Senior vice president, CTO  
BMC Software Inc., Houston

**CAREER HIGHLIGHT:** Co-founder of Patrol Software Pty. Ltd. and chief architect of the Patrol product. Eventually sold company to BMC.

#### LARI SUE TAYLOR, 39

Senior vice president,  
enterprise risk management  
FleetBoston Financial Corp.,  
Ridgely Park, N.J.

**CAREER HIGHLIGHT:** Accepted senior vice president role at Summit Bank (now FleetBoston Financial Corp.); built an information security unit and support system for business continuity, disaster recovery, help desk and client/server.

#### MARIBETH WARD, 47

Vice president, IT  
Parson Group, Chicago

**CAREER HIGHLIGHT:** Ran development for a small software company that was purchased by Ameritech (now SBC Communications Inc.) and is now the largest supplier of library automation software in the country.

#### MAHVASH YAZDI, 49

Senior vice president, CIO  
Edison International and  
Southern California Edison,  
Rosemead, Calif.

**CAREER HIGHLIGHT:** Rebuilt and revitalized Edison's IT capabilities by applying an entrepreneurial mind-set to rebuild the organization, improving financial performance and becoming a leading IT organization capable of responding to the demands of the energy crisis.

## THE STRATEGISTS

#### PAM ARMSTRONG, 41

Senior manager, IT  
City Utilities of Springfield,  
Springfield, Mo.

**CAREER HIGHLIGHT:** Educating the utility on IT's drive in the organization, being a part of what's happening in the IT industry and helping others understand the impact of technology.

#### ROGER BERRY, 52

Senior vice president and CIO  
Walt Disney World,  
Lake Buena Vista, Fla.

**CAREER HIGHLIGHT:** Mentored three employees who have achieved CIO status; directed development of the first real-time order management system in the energy industry before the Internet; directed development of a technical security control program for a Fortune 500 company.

#### BYRNE CHAPMAN, 45

Vice president, information services  
American Family Mutual Insurance Co.,  
Madison, Wis.

**CAREER HIGHLIGHT:** Led initiative to convert a large Wisconsin-based company from IBM DOS to IBM's MVS operating system, done primarily with interns from a technical college while full-time staff continued to support regular projects.

#### JIM CONNORS, 39

CTO  
William Blair and Co., Chicago

**CAREER HIGHLIGHT:** Led the IT function for two leading financial service organizations, roles built on a background of clear understanding of business fundamentals as well as technology depth and flexibility.

#### MICHAEL E. CROMAR, 54

Vice president, e-business and  
global business process  
IBM Global Financing, Armonk, N.Y.

**CAREER HIGHLIGHT:** Worked with founders of Metaphor from 1983 to 1988, helping develop data mining system, then applied it to everything from marketing to financial planning to operations; received recognition in *BusinessWeek* in October 1987 for the achievements.

#### FRAN DRAMIS, 53

Chief information and e-commerce officer  
BellSouth Corp., Atlanta

**CAREER HIGHLIGHT:** Led development of stock transfer system and IT organizations that enabled the AT&T divestiture in 1984; introduced Unix as a viable business alternative by spearheading the Business Automation Platform program, which combined all of AT&T's ordering systems into a single, centralized platform.

#### PARVEZ K. ERANI, 46

Vice president, information management  
St. Mary Medical Center, Long Beach, Calif.  
**CAREER HIGHLIGHT:** Led IT team in a decentralization process. Responsible for data center consolidation and \$1 million savings in one year.

#### RICHARD J. FISHBURN, 56

Vice president, CIO  
Corning Inc., Corning, N.Y.

**CAREER HIGHLIGHT:** While at a company being acquired, along with a team built over a 40-month period, was selected to join the new company's management team, validating the quality of people and quality of work.

#### DAVID C. FITZPATRICK, 44

CIO, director of IT  
Metawave Communications Corp.,  
Redmond, Wash.

**CAREER HIGHLIGHT:** Developed IT plan for Stimson Lane, interacting with every part of the organization to ensure that the plan reflected the business strategy and direction of the company.

#### KENT FOURMAN, 50

Vice president, CIO  
Gaylord Entertainment Co., Nashville

**CAREER HIGHLIGHT:** Became company's first CIO to lead a telecommunications evaluation that saved the company \$1 million annually, reduced turnover from 30% in 1997 to 14% in 2000; named co-CIO of the year for Nashville in 2000.

#### FRANK A. GUGLIEMO, 54

Vice president, Enterprise Engineering Group  
Soza and Co. Ltd., Fairfax, Va.

**CAREER HIGHLIGHT:** Appointed to the Senior Executive Service of the U.S. government, an elite corps of executives. These jobs are the career positions directly below political appointees, where the operations of the federal government occur.





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**John Kunze**, President and CEO, Plumtree Software  
**Jack Ozzie**, Co-founder, Vice President of Development, Platform and Developer Services, Groove Networks  
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**STEVEN T. HAMMOND, 44**

Vice president, IS  
Plasti-Line Inc., Powell, Tenn.  
**CAREER HIGHLIGHT:** Promoted others into positions that developed their growth and provided much more value to the company.

**H. JAMESON HOLCOMBE, 38**  
CIO, Cambrian Communications LLC,  
Fairfax, Va.

**CAREER HIGHLIGHT:** As program manager at Blockbuster.com, oversaw the company's move from an out-sourced Web presence to an internal Internet infrastructure.

**JIM JACKSON, 52**

Vice president, CIO  
Interape Polymer Group,  
Bradenton, Fla.  
**CAREER HIGHLIGHTS:** Developed programs to support a top-secret military project with McDonnell Douglas; developed special code with IBM that was used throughout the industry.

**MARK JONGEWARD, 47**

Director of technology and training,  
Bacou-Daloz, San Diego  
**CAREER HIGHLIGHTS:** Completed MBA in information systems; promoted to vice president of operations for a technical training company and implemented J.D. Edwards' ERP project in one year at \$300,000 under budget.

**DAVE MOELLENHOFF, 31**

CTO, Salesforce.com Inc.,  
San Francisco  
**CAREER HIGHLIGHT:** Founded Salesforce.com.

**CURTIS ROBB, 56**

Senior vice president, CTO  
Delta Technology Inc., Atlanta  
**CAREER HIGHLIGHT:** While at IBM, supported Defense Department projects as a manager of programming engineering and architecture functions; later identified, developed and ran consulting engagements.

**DENNIS ROELL, 38**

IT manager  
Betts USA Inc., Florence, Ky.  
**CAREER HIGHLIGHT:** Led plant and corporation into the collection of key data, offered scenarios of what business problems that data can be used to solve and managed the implementation and training of the users.

**BART STANCO, 44**

Senior vice president, CIO  
Gartner Inc., Stamford, Conn.  
**CAREER HIGHLIGHT:** Joined a start-up as head of product development. Upon leaving company as global managing director, the company had reached No. 1 in the small-to-midsize enterprise telecommunications market, with more than 3,000 employees.

**PAUL STEVENS, 42**

Global head of technology  
Barclays Global Investors, San Francisco  
**CAREER HIGHLIGHT:** Created first-rate IT management team, providing focus and watching them develop and succeed.

**M. LEWIS TEMARES, 60**

Vice president, CIO,  
dean of engineering  
University of Miami,  
Coral Gables, Fla.  
**CAREER HIGHLIGHTS:** Developed a

\$312 million telecommunications plan in 1991 and implemented it by 1998. Developed a bachelor of science and master's degree program in IT at the College of Engineering that in two years has grown from 18 students to 71.

Take our quick, interactive quiz to find out which profile best matches your leadership qualities. Visit our Web site at [www.computerworld.com/q?ai350](http://www.computerworld.com/q?ai350)

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CEO, Vignette  
The Evolution of Content Management  
Wednesday, March 6th at 9:00 am

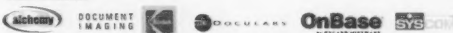


Enterprise Content Management's Role in September 11th's Disaster Recovery Efforts  
Wednesday, March 6th at noon



**DAVE De WALT**  
CEO, Documentum  
Putting Information Assets in the Content Ecotecture  
Thursday, March 7th at 9:00 am

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# The Visionaries

## What Makes Them Tick

**THEIR STRENGTHS:** These leaders establish a vision and are able to articulate that vision to inspire others around them. Visionaries come up with big-picture ideas that embrace the future, and they're able to get others to commit to the vision. As a result, employees feel connected to the company's future. As people with foresight and imagination, these leaders have a good sense of where the industry will be in the future and how a company should fit into that picture. They can show how staff will benefit from the vision by clearly articulating the benefits. These people are charismatic and persuasive and have strong characters that inspire loyalty. Visionaries have an agenda and use interpersonal networks to achieve their goals. Because of their charisma, these leaders inspire strong emotional reac-

tions, including negative reactions from more concrete thinkers who want implementation details.

**BEST SCENARIO:** Visionaries are great start-up CEOs who can often attract a top management team and resources. They can revitalize an established company that has hit hard times.

### PROFILE

**POSSIBLE CHALLENGES:** Visionaries aren't particularly good at developing processes and procedures for strategy implementation.

**SUPPORT NEEDED:** Visionaries are most effective with help from Strategists or Diplomats to implement an agenda.

### U.S. DEPARTMENT OF EDUCATION

## Craig B. Luigart

*Capturing the can-do spirit*

In 1973, Craig B. Luigart spent his days in the bilge of a U.S. Navy minesweeper, waist-deep in oily water, chipping old paint off the ship's engines. "Day after day with a chisel and hammer — I was miserable," says Luigart, now CIO at the U.S. Department of Education.

But he received this advice from his then wife-to-be, counsel that has served him well during the ensuing decades: "Act enthusiastic, and you'll be enthusiastic."

"I've always been an optimist as to what could be done, and there's always a way to mitigate the negative of what can't be done," Luigart adds.

And, if you're in a management position, your people will pick up on that, Luigart says. "Enthusiasm and optimism and well-crafted statements of vision are all contagious," he says.

Luigart supervises a staff of 100 and has 16 bosses: the assistant secretaries of education. He says 90% of his job is dealing with cultural issues and 10% with technical ones. "Most CIOs have a sense of vision, but the hard part is turning the vision into execution," he says. "The ability to articulate the vision in a business sense, not a technology sense, is critical to the process."

When Luigart, 47, arrived at the de-

partment two years ago, he found it comprised "a dozen or so highly vertical stovepipes." And there was scant strategic linkage between IT and the business units. Luigart set about to instill among senior managers throughout the agency a vision in which technology serves education.

"I began to explain the concept of enterprise management of technology," Luigart says. "I also explained the need, as we move into the post-Gutenberg age, to create the kind of solutions being demanded by teachers to help move education into the 21st century." Luigart established an engineering review board, a data standards board, a security review board and an investment governance board.

Asked how he got all the managers to line up, Luigart says, "You have to invest yourself in them. Sending them a brief isn't the answer. You have to be in their office, make your case, hear their objections and fears, and handle those." He says he has a rule to spend at least an hour and a half every two months face to face with each of the assistant secretaries. Actually, he has 25 "Luigart's Rules," which include "communicate, cooperate, coordinate"; "hire people smarter than you"; "undercommit and overdeliver"; and "those things get done that the boss checks on."

While Luigart says his vision centers on the mission of the Department of Education, not on technology per se, others say he's keenly interested in IT.

Former colleague Ron Turner, deputy CIO for the U.S. Navy, recalls, "One of his funniest quirks was what we called his Monday tear-out sessions. Craig would take an hour or so and go through all the latest trade magazines looking for alpha and beta products. He'd walk out of his office and start handing out whatever he tore out of the magazines, and we'd have to figure out how these technologies worked, which usually meant us spending a lot of time with the vendors in their R&D labs."

"Luigi, as we called him in the Navy, is a systems thinker," says Navy Vice Adm. Joe Dyer, head of the Naval Air Systems Command. "His ability to transition from vision to reality is unique. Some have vision, many can implement, but few can do both. Luigi can."

— Gary H. Anthes

### Think you might be a Visionary?

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"ENTHUSIASM AND OPTIMISM and well-crafted statements of vision are all contagious," says Craig B. Luigart, CIO at the Department of Education.

PHOTO: JIM LAMBERT



## FEDERAL RESERVE BANK OF NEW YORK

## Melanie Heintz

## Getting familiar with business processes

Read it, learn it, know it. Sounds like a good way to absorb information in a perfect world. But when it comes to complex business processes — everything from hours of operation to use of IT services for a variety of business units — a little interactive exchange sure helps people remember things.

That was Melanie Heintz's thinking. She's an IT staff director at the Federal Reserve Bank of New York, one of 12 regional banks that together with the Board of Governors in Washington makes up the Federal Reserve System.

One of the IT groups — service-delivery managers — is responsible for acting as liaison between the business units and the staff that provides them with IT services. "There had been a disconnect there," says Heintz, 38. "Our job [in IT] is to innovate, but how can we innovate when we aren't fully aware of what [the end users] do? We needed to better understand the business processes."

So the group set about writing profiles of the business units that outlined major initiatives, process descriptions, use of IT services and wish lists. The finished profiles offered a great deal of useful insight, but getting the staff to read and retain this critical information would be difficult.

"I took [the profiles] home over the weekend and read every single one of them," says Heintz. "I started to underline things I thought were interesting." That's when she was struck by the idea to hold a contest to get her staff members truly familiarized with the content of the reports. "I prepared a questionnaire . . . and asked that [the staff members] return it in two weeks," Heintz says. "All who answered the questions would receive an invitation to a party on the roof of our building with prizes, games and a free lunch."

For the party, Heintz asked her staff to develop their own questions based on the profiles to be posed this time to the managers. If a vice president was stumped on a business process question, for example, the staff member was awarded \$10 on the spot.

The idea worked. Staff members retained the information, and those who developed the profiles were pleased that their hard work had paid off. "It

had a great effect," says Joseph Heaney, staff director at the bank and one of the managers put on the hot seat. He credits Heintz's energy and organizational skills for the success.

Now the profiles are updated regularly, and other division managers have asked Heintz for permission to copy the program. The cost of the party was minimal, but Heintz acknowledges that as in other organizations, budget issues are a growing concern for IT.

"Any project you want to embark on, you have to be doubly convincing about the bottom line," she says. "And sometimes selling IT projects takes some finesse."

"You've got to know your stuff. A lot of this is getting your own managers to buy in. It has a lot to do with being able to explain how it adds business value properly," she says. "And developing those marketing skills is important. Maybe it didn't used to be, but it is today."

Heintz's best advice for aspiring IT leaders? "You've got to have integrity. It sounds like a simple word, but it's so important to deal with people straight up. Once you've damaged a relationship, it's terribly difficult to get that trust back."

— Ellen Fanning

## IDACORP

## A. Bryan Kearney

## Gaining credibility one step at a time

When A. Bryan Kearney stepped into his role as CIO at Boise, Idaho-based IdaCorp Inc. last March, he set out to more closely align pockets of IT at the \$835 million utility firm's six divisions with overall corporate strategy. His plan, however, wasn't an easy sell.

"To some degree, people left IT out of the business side of the corporation," he says.

Kearney's goal was to create a framework to ensure that all IT investments were value-based and linked directly back to corporate objectives such as cost efficiencies, strategic advantage and greater customer satisfaction. That meant more centralized management and coordination, as well as raising the bar on accountability.

But anytime you change processes, Kearney explains, there will be some resistance.

Previously, IT at the company's subsidiaries had operated independently

of formal corporate oversight, and Kearney, 39, says he anticipated some opposition to his plan. He knew that getting management buy-in was critical and would require small steps and lots of evangelizing.

"I had to build credibility and earn trust over a period of time," he says. "I don't go for great big things out of the gate."

Lou Mickler, general manager of IT at Idaho Power Co., one of IdaCorp's division, says Kearney's leadership has helped the utility firm grow in the regulated energy industry and better compete in non-regulated arenas.

"In an economy of fluid consumer priorities and astonishing technological advances, Bryan's insight and vision keep Idaho Power at the forefront of innovation and customer service," Mickler says. "Bryan's passion for quality and commitment inspire dedication and confidence, in his team and management alike."

Although IdaCorp's IT operations are now more in line with its business strategy, Kearney still faces resistance to change. In order to counter that,

he says, communication is essential.

"You have to travel to the four corners of your organization, get in every nook and cranny. You can never get off your bicycle," Kearney says.

He adds that IT leaders must always be forward-thinking, looking for new opportunities, new roles and threats.

"I think our biggest challenge will be reacting to whatever this 'new America' is," Kearney says, referring to security and other concerns following the Sept. 11 terrorist attacks. Prior to the attacks, IT security and disaster planning weren't priorities at many companies. "But recent events are no excuse for not moving forward on corporate objectives — for not servicing customers better," Kearney cautions.

IdaCorp has been opening its systems to enable self-service and increase customer satisfaction. Now, Kearney says, "the real hat trick" will be to make the company's systems more customer-oriented while still adhering to strict security precautions.

"Make no mistake," he says. "It will be a very difficult year."

— Monica Sambataro



# 100 PREMIER IT LEADERS 2002

## THE VISIONARIES

## BRETT ARQUETTE, 41

CTO  
Ninth Judicial Circuit Court of Florida, Orlando

**CAREER HIGHLIGHTS:** Achieved current career status by learning and writing code as a graveyard computer operator to automate shift, then became expert in DCL language and eventually director and CTO.

## ROBERT B. CARTER, 42

Executive vice president, CIO  
FedEx Corp., Memphis

**CAREER HIGHLIGHTS:** Became FedEx's first CTO in 1997; two years later named CTO of the Year by *InfoWorld Magazine*; promoted to the position of FedEx CIO in June 2000.

## MARK ENDRY, 45

Senior vice president, CIO  
J.D. Edwards and Co., Denver

**CAREER HIGHLIGHT:** Acted as program manager for a worldwide telecommunications vendor change.

## RON FIJALKOWSKI, 49

CIO, Strategic Distribution Inc., Feasterville, Pa.

**CAREER HIGHLIGHTS:** Helped develop automated bar-code fuel system using an imbedded processor to turn on pumps; calculate gallons and print receipt; developed an integrated truck dispatch system.

## ROGER GURNANI, 40

Vice president, CIO  
Verizon Wireless, Warren, N.J.  
**CAREER HIGHLIGHTS:** At Verizon Wireless, led the integration of regional wireless companies to create the largest wireless company in the U.S. At Bell Atlantic Mobile, responsible for IT strategy, which included developments in e-commerce and customer care solutions.

## LOUIS GUTIERREZ, 40

Senior vice president and CTO  
Harvard Pilgrim Health Care Inc., Wellesley, Mass.  
**CAREER HIGHLIGHTS:** Negotiated a \$700 million IT and business process outsourcing contract during Harvard Pilgrim's turnaround; became the first official CIO of the Commonwealth of Massachusetts and held that position from 1996 to 1998.

## JERRY B. HALE, 50

Director, global business systems  
Eastman Chemical Co., Kingsport, Tenn.  
**CAREER HIGHLIGHT:** Led an effort to standardize Eastman's 10,000 desktop computers and related software that has resulted in significant value to Eastman.

# The Innovators

## What Makes Them Tick

**THEIR STRENGTHS:** This is the type of leader an organization needs when change is in the air. As leaders with high creativity and imagination, Innovators can find unique solutions to new and old problems. They throw out conventional thinking and turn ideas into practical solutions. Although they are mavericks, Innovators have new ideas that are realistic and can work. Innovators follow through on the transformations they help to launch. As agents of change, Innovators see conflict as potentially healthy and perhaps useful in developing the leverage needed for a change agenda.

**BEST SCENARIO:** Innovators are often brought into a company to

effect change or are called upon to lead change within a department. An established company that missed an important strategic opportunity may need an Innovator to get back into the game.

**POSSIBLE CHALLENGE:** Innovators often don't consider individual feelings or loyalties and may be seen as insensitive or as bulls in a china shop in implementing their plans.

### PROFILE

**SUPPORT NEEDED:** Innovators need to be balanced by skilled Diplomats or Coaches who can tolerate and, in some cases, clean up behind them. They may also need help from Strategists to make ideas operational in the long term.



**MICHAEL J. RAGUNAS**, chief technology officer at Staples.com, says building an XML-based integration platform was the riskiest business decision he ever made.

STAPLES.COM

## Michael J. Ragunas

*Giving every idea a hearing*

Sometimes real innovation lies in what's tried and true: hiring top-notch people, building a solid team and listening to what they have to say.

"Eureka" ideas sometimes work, but I get more ideas — and better ones — by involving my team," says Michael J. Ragunas, chief technology officer at Staples.com in Framingham, Mass. "Innovation is not something that comes down from the mountain, but from making sure the whole organization is able to come up with ideas and get them heard."

In his 15-year tenure at Staples Inc., Ragunas has transformed the office supplies retailer's stores with a complete systems overhaul, built dot-com revenue to nearly \$1 billion when other dot-coms were dropping like flies, and took a flier on building an XML-based integration platform.

Ragunas, 37, says he doesn't have any magic formula for producing the kinds of ideas that have branded him as an innovator among IT leaders; he just follows good, sound management principles.

"We push the envelope, but in a way that best serves shareholders and customers and that generates more revenue for the business," he says. "If you have the right team in place and pro-

vide them with food for thought, challenge them with forward-looking ideas, they will collectively generate more innovative ideas than you will as an individual."

It was a staff member, for example, who suggested an idea that has been critical to creating buy-in for new projects and changes in direction, Ragunas says. The rate of change at Staples.com had begun to take its toll on morale, and a developer proposed that the constant flux would be more palatable if the team better understood the causes and effects.

"One of the challenges in a business that's moving so quickly is [that] there may be a change in priorities so that a new project may suddenly take precedence over [an existing one], and that can be disconcerting to the staff," Ragunas explains. "They wanted to better understand what the priorities were."

To harvest the best ideas of his staff, Ragunas regularly schedules roundtables with 10 or 12 people. He also comes up with ideas on his own, such as the XML project, which he calls the riskiest business decision he ever made.

Staples had several large corporate customers that wanted to connect their internal procurement systems to StaplesLink.com, the company's business-to-business site. Although XML was generating a lot of buzz, few companies had committed to it as an integration standard. Ragunas wanted to build a system that would be flexible enough to adapt to future needs.

"It wasn't a superhard sale," Ragunas says. "We could see the future of the technology, and it was a pretty good wager that it would be around for a while and more useful over time."

Staples developed an XML-based interface and first hooked its own procurement system up to the site. Not only has the system been leveraged by existing partners, but it has also won the company new corporate accounts seeking the same capability.

While Ragunas has had his share of individual successes, he hasn't lost sight of the value of his team. "It's important to recognize that as leader, you will not be the only one to come up with great ideas," he says, "but rather, you should champion the great ideas of others."

—Leslie Jaye Goff

### Think you might be an Innovator?

Your out-of-the-box thinking could be used to lead change. Take our quiz online at:

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## ABC INTERACTIVE

**Dick Bennett***Teaming the best and the brightest*

Dick Bennett has some advice for getting a project done right: Put your best people on it and get into the trenches with them.

He learned that lesson seven years ago when faced with an IT dilemma of gigantic proportions. As senior vice president of audit services and chief technology officer at ABC Interactive (ABCI), an Internet auditing company in Rolling Meadows, Ill., Bennett had to make a major modification to his company's database publishing system.

ABCI offers independent, third-party verification of online activity, providing assurance to the advertising community that Web site traffic and ad delivery metrics are accurately reported.

The system automatically publishes more than 100,000 pages of content per year and stores information from that content in a database, Bennett says. "The system can automatically transfer information from page content to the database and vice versa. The challenge was to take graphics, like graphs and maps, from the database and embed them in the documents, something that at the time was being done manually," he says.

But the change couldn't be implemented with the existing system, says Bennett. So he hired his richest asset: the unique skills of his employees

and consultants. He gathered the best and the brightest and directed them to create a brand-new system.

"To inspire them, I took over project management in a [hands-on mode]. I did a significant amount of work myself," says Bennett, 51. "We met our schedule to complete the project in six months, although the system was still a work in process as we went into production."

Employees now have a document format that's easier to use, says Bennett, and production time and costs have decreased by more than 30%.

Kaydene Stachelski, vice president of information services at ABCI, says her boss has an unlimited supply of both energy and ideas. "For every problem, he has three ideas," she says.

— Linda Rosencrance

## GALACTIC LTD.

**Anthony Okrongly***Finding challenges on the cutting edge*

Like him, Anthony Okrongly's role model is a bit of a maverick.

The vice president of IT at Galactic Ltd., an incentive marketing firm in Arlington, Texas, says he tries to emulate the life of Nikola Tesla, the underappreciated genius often cited as the father of modern electricity.

To test his theories about electricity, Tesla stood in open fields holding metal balls to attract lightning. Sometimes he was able to channel the charges; other times, the lightning came close to zapping him. Okrongly says that sort of innovative risk-taking is how he ap-

proaches corporate IT.

While he's had many successes, Okrongly, 32, acknowledges that working on the edge — like playing with electricity — can sometimes zap you, so you have to stay alert. For example, Okrongly recently had to quickly switch back to the local phone company when reliability problems with a relatively new network supplier surfaced.

Managing an IT department is also challenging, Okrongly says. It requires not so much knowing about the guts of a system but how to manage people. This reflects the managerial approach of another of Okrongly's heroes, Frank Crowe, the engineer who supervised the building of the Hoover Dam in the 1930s.

When hiring employees,

Okrongly spends less time looking at their résumés and more time listening to what candidates say they can do.

His own background is one of achievement. He started working at Galactic in 1993 after a stint in the U.S. Army. Though he lacked a college degree, the self-taught Okrongly soon found himself responsible for the company's technology, building his job and the IT department as the company grew.

Network administrator Dave

Buchanan says Okrongly's approach to IT has paid dividends for Galactic. For example, he says, Okrongly recently found an open-source alternative to Cisco Systems Inc.'s NetRanger intrusion-detection system that "costs zero dollars."

— Bob Brewin



## FLASHLINE.COM INC.

**Adam Wallace***Pushing the envelope of recycling*

For a man who loves to develop new technology, Adam Wallace, 31, has an abundance of enthusiasm for recycling software components.

"There's a thrill in being part of a team that's on the cutting edge, accomplishing goals that have no clear road map to success," Wallace says. As CIO at Flashline.com Inc. in Cleveland, Wallace is trying to make software reuse — the use of existing code to

build new software — a reality.

And although he relies on technology that isn't new, the practice of software reuse is still relatively uncharted territory.

"In that sense, I'm working at a dream job now, because of my involvement with Flashline's efforts to change the face of software development by making software reuse a reality," Wallace says. "The downturn in the economy has actually vindicated our position on the importance of reuse."

But over the years, persuading his staff to buy in to new technology hasn't always been easy, Wallace says.

"While running an e-commerce organization [at another company], I led [a migration initiative that] represent-

ed a fundamental change to our IT department because it involved a move to object-oriented programming techniques and required our team to learn several new technologies. This naturally caused significant resistance," Wallace says.

He says he got his staff on board by involving them in the decisions and implementation. "Rather than mandate the change, I had developers involved right from the evaluation through implementation," he says. "Because they were there for the education process, they became very familiar with the benefits of the new approach and felt a sense of ownership that gave them a stake in the success of the project."

— Jennifer DiSabatino

# 100

PREMIER  
IT LEADERS 2002

**MELANIE HEINTZ, 38**

Staff director

Federal Reserve Bank of New York

**CAREER HIGHLIGHTS:** Obtained technical certifications to earn respect of staff and co-workers through example. Obtained Novell CNE NetWare, Novell CNE GroupWise, Citrix Administration and Lotus Certified Professional certifications in five years.

**BERNARD D. HILL JR., 54**

Assistant commissioner, CIO

Virginia Department of Transportation,

Richmond, Va.

**CAREER HIGHLIGHT:** As a recent gubernatorial appointee to the Virginia Council on Technology Services, advocated implementation of an integrated financial and human resources system for the commonwealth.

**R. BRUCE JOHNSON, 64**

Director, information services

Robinson Silverman Pearce Aronson &

Berman LLP, New York

**CAREER HIGHLIGHTS:** At Deloitte and Touche, coordinated rollout of 5,000 Compaq portables to more than 100 offices. At Sullivan & Cromwell, implemented LAN and WAN to 10 offices in eight countries.

**A. BRYAN KEARNEY, 39**

Vice president, CIO

Idaho Power Co., Boise, Idaho

**CAREER HIGHLIGHT:** Earned graduate degree from University of Southern California and achieved rank of captain, USMC, at 26.

**ASHISH KUMAR, 35**

CTO

Avenade Inc., Seattle

**CAREER HIGHLIGHT:** Architected several first-generation client/server solutions for financial institutions in early 1990s, including claims processing systems, wholesale banking systems and retail brokerage systems.

**CRAIG B. LUIGART, 47**

CIO

U.S. Department of Education, Washington

**CAREER HIGHLIGHTS:** As first formal IT manager of the Naval Air Systems Command, developed first business network for 38,000 users. It was a hybrid network of PCs, Macintoshes, Unix boxes and DEC boxes using open and proprietary protocols.

**MICHAEL PRINCE, 60**

Vice president, CIO

Burlington Coal Factory, Lyme, N.H.

**CAREER HIGHLIGHT:** Oversaw information systems at Burlington Coal Factory as company grew from 32 stores to almost 300. Sales have grown from less than \$200 million to more than \$2 billion.



# The Innovators

FAIRFAX COUNTY, VA.

## David J. Molchany

*Making sure everyone has a say*

As CIO of Fairfax County, Va., David J. Molchany knows he's expected to develop a vision for his county, but it's something he doesn't do alone.

Good leadership, says Molchany, means encouraging contributions from every employee. "I expect them to help come up with new ideas," he says. "I expect them to be on the lookout for good solutions."

Molchany fosters this approach by making training a priority, encouraging peer interaction and ensuring that his open-door policy doesn't lead to management disputes.

"If someone has come directly to me, I have to make sure that I've addressed their issue, but I also make sure everyone in the loop knows what has transpired," says Molchany, 40. "If you are going to have an open-door policy, you can't have it being used to circumvent other people's management decisions."

Molchany oversees IT planning for Fairfax County, a part of the metropolitan Washington area with a population of about 1 million. He has more than 100 employees and interacts with dozens of agencies. Molchany started in the private sector but moved to government and found public service rewarding.

To work effectively in a diverse organization, Molchany says he has to fight his natural tendency to get his ideas out fast. "That is really something I try to concentrate on — making sure everyone has said what they have to say before I make a comment. When I do that, it makes it a much better meeting," says Molchany.

But he's also decisive, says Wanda Gibson, the county's director of IT. "Nothing gets hung up, so to speak, in committee," she says.

Molchany's skills were recently tested by a major redesign of the county's Web site, which involved dealing with some 55 agencies accustomed to doing their own thing, says Gibson. But Molchany's ability to sell the idea and get buy-in "was an extraordinary feat," she says.

— Patrick Thibodeau



### PAUL S. RAINES, 41

Global head, information risk management  
Barclays Capital, New York

**CAREER HIGHLIGHTS:** Served as a missile launch commander and satellite mission controller in U.S. Air Force; program manager for e-commerce at U.S. Postal Service; rolled out two new e-commerce products with the Postal Service.

### KLAUS O. SCHAFER, 51

Assistant surgeon general for  
medical readiness science and technology  
U.S. Air Force, Bolling Air Force Base,  
Washington

**CAREER HIGHLIGHT:** Moved organization to the first large Windows NT network within the Air Force.

### BILL SELTZER, 62

Executive vice president, CIO  
Office Depot Inc., Delray Beach, Fla.

**CAREER HIGHLIGHTS:** At H.E. Butt Grocery in San Antonio, built a strong IT department, driving the cost of distribution to the lowest in the grocery industry. At Office Depot, built the second-largest online retailer in the world.

### RANDOLPH SMITH, 53

Manager, information security CISSP  
United Parcel Service of America Inc.,  
Mahwah, N.J.

**CAREER HIGHLIGHTS:** Developed first UPS artificial intelligence applications; discussed impact of this computing with Michael Dertouzos of MIT.

### JAMES B. STOUGH, 50

Director, technology  
Locke Liddell & Sapp LLP, Houston  
**CAREER HIGHLIGHT:** In 1998, attained position as director of technology at a large law firm, supporting more than 900 users and responsible for a support staff of 28; received *Computerworld's*

Honors Program Laureate's Award for Technology Innovation for MyLawNet, a knowledge portal for LawNet Inc.

### SUSAN SUMNER, 40

Executive director, IT  
Alza Corp., Mountain View, Calif.

**CAREER HIGHLIGHTS:** Participated in the installation of the first Novell network at the company and in a later conversion from Novell to Windows NT, the switch from mainframe to client/server ERP and development of the company intranet.

### BILL YORK, 43

CTO, Comergent Technologies Inc.,  
Redwood City, Calif.

**CAREER HIGHLIGHT:** Received first software patents for advanced user interface techniques at Xerox PARC, helping Comergent earn honors as Cisco's 1999 Vendor of the Year.

## THE INNOVATORS

### B. KEITH BEARDEN, 39

Director of information services, CIO  
A-dec Inc., Newberg, Ore.

**CAREER HIGHLIGHTS:** Developed claims and litigation system for Dow Chemical that was used in the Agent Orange defense. At A-dec, implemented Baan and most recently outsourced Baan support.

### DICK BENNETT, 51

Senior vice president, Audit Services, and CTO  
ABC Interactive, Rolling Meadows, Ill.  
**CAREER HIGHLIGHTS:** Created and matured a successful IT auditing function for two organizations, one a Fortune 500 company; designed and built monitoring and control systems that allow for the management of company operations and other activity directly related to revenue.

### BOB BICKEL, 44

CTO, middleware  
Hewlett-Packard Co., Mount Laurel, N.J.

**CAREER HIGHLIGHT:** Designed LAN adapter for process control, which was an adaptation that combined Ethernet, SDLC and Token Ring for a fail-safe operation in process control applications.

### GWENDOLYN BODDIE, 41

Director of e-commerce  
and data management  
Springs Industries Inc.,  
Fort Mill, S.C.

**CAREER HIGHLIGHTS:** Designed and implemented a highly redundant and automated communications network between the Chicago Mercantile Exchange and member firms; led development and implementation of Notes to facilitate claims management and product development.

### PHIL GO, 40

CIO, Barton Malow Co.,  
Southfield, Mich.

**CAREER HIGHLIGHT:** Helped company enter into enterprise agreement with application service provider that provides Internet-based project management tool to manage more than \$800 million worth of Barton Malow construction projects.

### SCOTT HICAR, 34

Vice president, IT, and CIO  
Mastor Corp., Longmont, Colo.

**CAREER HIGHLIGHT:** Integrated Quantum Corp. into Mastor after the companies merged. Within 45 days of the close of the merger, more than 90% of processes and systems were consolidated and operating on Mastor's strategic systems architecture.

### JEAN K. HOLLEY, 42

Vice president, CIO  
USG Corp., Chicago

**CAREER HIGHLIGHT:** Received several awards including CIO of the Year from the Association of Information Technology Professionals. Outstanding Women Leader from the YWCA and various mentoring program recognitions.

### JOHN HUMMEL, 47

Vice president, IS, and CIO  
Sutter Health,  
Sacramento, Calif.

**CAREER HIGHLIGHT:** Worked on IT health care management projects in China, Malaysia, Japan, Middle East, Chile, Peru, Colombia and Australia.

### DOUGLAS T. JONES, 45

Vice president, enterprise  
information systems, CIO  
Cedars-Sinai Health System, Los Angeles

**CAREER HIGHLIGHT:** Led major design efforts for clinical applications at the largest health maintenance organization in the world; led major re-engineering effort to improve patient access to primary medical care at the same HMO.

### ALI KHEIROLOMOOM, 37

CTO, Avinion Inc., San Francisco

**CAREER HIGHLIGHT:** Co-founded Avinion to leverage emerging software in the industry and created a platform for business to orchestrate Web services and corporate assets.

### CATHIE KOZIK, 41

CIO, senior vice president, Tellabs, Lisle, Ill.

**CAREER HIGHLIGHTS:** Supported annual company revenue growth of greater than 30% per year from 1996 to 2000; increased staff in IT 20% to 30% per year over the same time frame; maintained staff turnover of less than 10% each year.

### DAVID J. MOLCHANY, 40

CIO, Fairfax County Government, Fairfax, Va.

**CAREER HIGHLIGHT:** Developed an award-winning e-government program that uses multi-channel service delivery via the Web kiosks, IVR and cable TV, enabling business transactions and providing information to citizens and businesses.

### THOMAS H. MURPHY, 38

CIO, Royal Caribbean Cruises Ltd., Miami

**CAREER HIGHLIGHT:** Was part of the effort to build organizational entity that has increased its capabilities and value to company.

### JOE NEUBAUER, 41

Director, software development  
Martin Group, Mitchell, S.D.

**CAREER HIGHLIGHT:** Took a product developed over 20 years and pulled the company resources together to rebuild it from scratch using newer technology. It now provides telecommunications service providers with billing, customer care and operation support systems.

### ANTHONY OKRONGLY, 32

Vice president, IT  
Galactic Ltd., Arlington, Texas

**CAREER HIGHLIGHT:** Received the CEO's confidence to lead the company's IT.

### MICHAEL J. RAGUNAS, 37

CTO, Staples.com, Framingham, Mass.

**CAREER HIGHLIGHT:** As director of strategic technology and systems architecture, set technology standards and managed Internet and intranet development including the Staples.com site.

### RICH SADOWSKY, 39

Senior vice president, technology  
RadioCentral Inc., San Francisco

**CAREER HIGHLIGHT:** Helped build infrastructure at RadioCentral to produce radio stations on the Internet cost-effectively and reliably.

### ADAM WALLACE, 31

CIO, Flashline.com Inc., Cleveland

**CAREER HIGHLIGHT:** Developed Books.com, the first Internet bookstore, in 1991, placing together nonstandard technologies to develop business applications at the dawn of e-commerce.

### DAVID WATSON, 43

CIO, Enfrasture Inc., Aliso Viejo, Calif.

**CAREER HIGHLIGHT:** Participated in start-up of stealth bomber program in the early 1980s as part of an information systems team that met milestones while working with leading-edge technologies.

SOURCE: SURVEY DATA COLLECTED JUNE 2001



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INFORMATION SERVICES FOR IT LEADERS

Most companies will weather the storm by lowering costs, laying off workers and postponing projects.  
By Julia King

**B**ATTERED RELENTLESSLY by bad economic news, IT leaders across all industries are hunkering down for a long, gloomy winter in the storm cellar. Survival preparations include laying off workers; postponing or scrapping scheduled IT projects; hammering hardware, software and service providers for bare-bones pricing; and more closely scrutinizing all proposed technology projects with a focus on reducing or eliminating costs.

"We aren't as quick to look at a vendor that has something interesting to sell us — even for \$5,000, which would have been considered chump change in previous IT budgets," says Paul Raines, global head of information risk management at Barclays Capital in New York. "Nice-to-haves have gone by the wayside."

Digging into the numbers, most of the dozen IT leaders *Computerworld* spoke with reported either decreased or flat IT spending planned for 2002, which has already translated into layoffs of contractors and employees, shelved projects and postponed software upgrades.

"We've definitely cut back or rescope in e-business," says Cathie Kozik, CIO at Tellabs, a Lisle, Ill.-based communications equipment provider whose 2001 IT budget of \$37.5 million was already down 15% from the year earlier. In 2002, spending will likely take another dive or, at best, remain flat, Kozik says.

## How to Survive the Down Economy

1

Consolidate service vendors to leverage pricing.

2

Recruit IT employees from failed dot-coms. First-rate security and e-business professionals are available at one-third the salaries they commanded 18 months ago.

3

Vendors are hungry, too, so now may be the best time to buy hardware and software, even if you delay implementation. Users report that many vendors are ready to knock down prices by as much as 40%.

4

Don't renew expiring contracts with consultants and contractors. If you still need skills, hire a full-time employee, which can cut long-term costs by as much as 40%.

"We're under a significant amount of pressure on the budget, not just in IT, but in the business units that fund IT programs," she says.

The company's strategy for surviving the down economy is to focus on IT projects that deliver the biggest return on investment in the shortest period of time.

"The projects that went to the head of the list were anything that has to do with customers — projects they asked us for or projects that address pain points with our distribution strategy," Kozik says.

What immediately got the ax were purely internally focused projects. "These are the things I'd classify as glitz and glamour, like fancy Web sites for our employees or new ways to present data to the executive team," Kozik notes. "They would be nice to have and would help the company, but they wouldn't provide an immediate ROI."

Several IT managers say their game plan for 2002 is to stay the course with large, multiyear projects that are already under way and can't be canceled but whose costs can be contained by delaying upgrades and enhancements.

Consolidated Freightways in Vancouver, Wash., for example, is deferring a planned upgrade of its PeopleSoft Inc. enterprise software.

"It will save short-term development costs but long term [will] allow us to deploy the applications. We've simply deferred their implementation," says Marty Larson, former CIO and now senior vice president of sales and marketing at the \$2.3 billion freight transportation company.

### Change of Pace

Waterbury, Vt.-based Green Mountain Coffee Co., which spent two years implementing PeopleSoft applications, isn't canceling projects; it's just slowing project schedules.

"My goal is to grow the IT department slightly slower than the overall rate of growth of the company because I feel that I should be able to contribute to the bottom line without becoming a bigger slice of the pie," says CIO Jim Prevo.

In New York, Colgate-Palmolive Co. is focusing on squeezing additional operations efficiencies and cost reduc-

# Budget:

## Bracing for a Turbulent Year

tions from its already installed, multi-million-dollar global implementation of SAP AG's enterprise software.

"Our investments [for 2002] are to leverage that for further improvements to the supply chain, business information and business-to-business exchanges, all of which have a specific targeted return," says Colgate-Palmolive CIO Ed Toben. "Rather than cut a specific project, we're staying the course. We manage to business results in good times and bad times, and that allows us to keep our focus."

Landstar System Inc. in Jacksonville, Fla., is aiming to cut costs and improve worker productivity by integrating multiple stand-alone legacy applications, giving users seamless access to all company and customer data.

"It's not about replacing applications. Today, it's about leveraging investments we've already made and finding ways to deliver new products and services without having to uproot the whole organization," says Patrick Wise, vice president of e-commerce at the \$1.5 billion trucking company.

On the staffing front, virtually all of the IT leaders reported that they are reducing their reliance on contractors. When certain skills are required long term, the preference is to hire a full-time employee, which Wise estimates costs about half as much as hiring a contractor.

"We had contractors in for a number of projects, but that's an expense that slipped pretty quickly," he says. In good economic times, "we all tend to get lulled into a sense of security with having contractors. There is not as much impetus to do hiring. This forces us to be more disciplined. The preference is to hire employees," Wise says.

### Shifting Gears

Rather than lay off workers in certain regions and add others elsewhere, Barclays Capital is shifting the responsibilities of its current IT employees located around the world.

"We shifted personnel from Europe, where we were fully staffed, to the Asia-Pacific region, which was understaffed, because we were opening new

offices in that area," says Barclays' Raines. "There have been no layoffs."

Barclays employs 1,500 IT staffers, which translates to about one in every four employees at the company.

At Tellabs, which has laid off a "small number" of its 262 IT employees, workers in Europe, who previously handled only smaller projects, are taking on major projects, such as the company's euro conversion initiative, says Kozik. Having IT employees on the other side of the Atlantic work on major projects "lets us work 14 hours around the clock, rather than just eight," she notes.

Renegotiating service contracts and haggling for lower pricing from increasingly desperate vendors are also yielding savings at several companies.

"Vendors are going for deals they wouldn't have gone for before," says Lawson. Given the razor-thin margins at which Consolidated Freight operates, the transportation carrier has always been a tough and aggressive negotiator, Lawson says. "But I'll tell you, in the last six months, some of the deals we've been able to cut with software and hardware vendors have been surprising," he says. One example is his recent purchase of a storage-area network system that he estimates cost 25% to 40% less than similar technology purchased 12 months ago.

Consolidating technology and service providers is another cost-saving tactic that companies are using.

"We've been carefully crawling through vendor contracts, from maintenance agreements to professional services," says Curtis Robb, chief technology officer at Delta Technology Inc., the Atlanta-based IT arm of Delta Air Lines Inc.

"We are going to be consolidating to a few suppliers and get more leverage from them and increase our partnership approach with them," Robb says.

Looking ahead, none of these IT leaders was willing to predict just when the stormy economic weather might lift, allowing them to shift their IT budgets and operations out of survival mode. The one point on which all agreed is that it most likely won't be within the next month or two — which is why they're planning and preparing now for the long haul. ■

## Every Storm Cloud Does Have A Silver Lining

### IT'S NOT ALL DOOM AND GLOOM.

Scratch below the surface, IT leaders say, and there are plenty of hidden benefits in a down economy.

For starters, IT managers these days are worrying a lot less about staff turnover.

"You don't have to worry about paying huge bonuses to keep people or competing for people with counteroffers, because people just don't get stolen in a down economy," says Paul Raines, global head of risk management at Barclays Capital, where one of every four of the company's 6,000 employees works in IT.

Another good thing for managers is a very rich résumé pool. "There are a lot of very good people who were laid off by dot-bombs. We picked up some first-rate security consultants that way," Raines says.

For some reason, a down economy also seems to make people less recalcitrant about change, notes Ed Toben, CIO at Colgate-Palmolive. When money is tight, it's a good time to inculcate a greater sense of discipline about costs, he says.

"You'll never have a better opportunity to make a real difference," agrees Cathie Kozik, CIO at Tellabs.

"One of the things that people should do in a down economy is use it to essentially be a change agent," says Kozik. "It's very difficult to make change when times are good, but when the chips are down is when you can really make good in an organization."

At Tellabs, for example, Kozik is in the process of implementing stricter accountability rules for showing business payback on IT projects within business units.

Patrick Wise, vice president of e-commerce at Landstar System, notes that a down economy gives managers time to take better stock of their operations.

"The down economy makes us look at our own structure and the way we do business and our contracts and all of those expenses on an ongoing basis," Wise notes.

"The hidden benefit of that is we're creating an environment that will be more efficient. As the economy gets better, we become less of a drag on line-item expenses and the bottom line," he adds.

— Julia King



"WE'RE UNDER A SIGNIFICANT amount of pressure on the budget, not just in IT, but in the business units that fund IT programs," says Cathie Kozik, CIO at Tellabs.

### Survival tactics for 2002

Find out how IT leaders are keeping their staffs motivated, driving deals with their vendors and revisiting travel policies. Visit our online guide:

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Applicants must have work authorization to accept permanent employment in the U.S. We offer a competitive compensation and benefits package. Send cover letter, resume and transcripts to: ONE Community, Inc., Corporate Headquarters, 2880 Greenspoint Pkwy., #500, Hoffman Estates, IL 60185. An Equal Opportunity Employer.

ONE Community, Inc.

### NET2S

NET2S is a leading International Consulting and Engineering firm specializing in networking and communications technologies. We are presently seeking to fill the following positions:

- Sr. Unix Administrator
- TIBCO Engineer
- Network Security Specialist
- Telecomm. Engineer
- Sr. Software Engineer/Developer

All positions require BS/MS degree with a minimum of 2 to 3 years of experience in the field. Must possess excellent communication skills as well.

NET2S, 82 Wall Street Suite 400, New York, NY 10005; Fax: (212) 279-1960; Phone: (212) 279-6565; or Email: [jobus-ny@net2s.com](mailto:jobus-ny@net2s.com)

Fitri Inc is looking for Tibco Programmers with knowledge in live market data, full range of emerging market analytics, historical data archiving & retrieval for Trading, Sales, Research, Capital Mktg. & Risk Mgmt. You will be responsible for designing, developing, testing, implementing, and supporting middleware messaging components used as primary interfaces between network applications. Candidates must have a BS degree in CS, MIS or Eng. along with 1 year experience in Tibco Rendezvous, ADB, Adapter SDK, Hawk, MB, IM and Java. Fax your resume to 713-981-3815 or e-mail to [resume@fitri.com](mailto:resume@fitri.com)

**PROGRAMMER ANALYSTS** required for our Louisville, KY office. Design, develop & maintain new & existing software applications using Developer 2000, Designer 2000, VB, Oracle, Cobol, C++, Erwin & object oriented design; Develop & implement client/server applications in Oracle financials & using synchronization techniques in Oracle tools such as PL/SQL, Developer 2000 & designer 2000; Write source codes based on design specifications, research feasibility of new products/features, add new features. Perform unit, system & integration testing before release & correct bugs; Develop relational database system in Oracle, VB & Windows, Unix environment. Bachelors req'd in Math, Computers, Engineering or related field of study + 2yrs of experience in the job described above-40 hrs/wk. Must have proof of legal authority to work permanently in the U.S. Please send resume to HR Manager, Indusoft Software, Inc. 1303 Clear Springs Trace, Ste 208, Louisville, KY 40223

Mphasis-BFL Ltd. and its subsidiary Mphasis Corporation has multiple openings for the following positions at its CA offices in Santa Monica & Sunnyvale, New York: Programmer Analyst, Software Engineer, Project Manager, Management Analyst, Finance Manager, Business Development Manager. Please send resume and salary history to: [hr@mphasis.com](mailto:hr@mphasis.com) or mail to: HR 444 Park Avenue South, Suite #503, New York, NY 10016

Satyam Computer Services looking for individuals to fill multiple positions

- Client Server Developers
- Mainframe Developers
- Web-based Developers
- Urgent skills in demand include: PeopleSoft, Lotus Notes & Domino, SAP/ABAP, AS/400, iBase/ASCI/PLI Engineers
- Datawarehouse Development, Unix Client server architecture, design, Datawarehouse tools

Will serve multiple clients on projects throughout the U.S. Mid-level & Senior-Level positions available. E-mail resumes to: [resumesus@satyam.com](mailto:resumesus@satyam.com) Include JOB ORDER #12301

Calif. based IT co. has multiple openings at its Torrance office for Programmer/Analysts, Software Engineers and Business Development Consultant. Please send a resume with salary history and requirements to RJT Compuquest, 23430 Hawthorne Blvd., #305, Torrance, CA 90505, ATTN: Suzanne.

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Advertising Supplement

# IT Careers in Financial Services

The nation's – and some would say the world's – financial center lies at the heart of New York City. From the New York Stock Exchange to the offices of major financial institutions, this service industry constantly pushes the envelope on information technology. In the days and weeks following Sept. 11, the IT community moved into high gear to reestablish networks and infrastructure – to get the nation's economy back on track.

Untold hours of effort were donated and staffers at IT firms throughout the financial district created new levels of expertise and performance in the work they did to rebuild the systems.



However, even before Sept. 11, "demand for our services had shifted from new application development to improved quality control," explains Jim Seery, area vice president for consulting firm **Spherion**. "Debugging and rewriting applications is costly, making testing and quality assurance more important than ever to our clients as part of cost containment."

**Spherion's** key practices include Enterprise Application Integration, Software Quality Management, and Information Design Services. These three aspects provide a balance for the firm as economic needs shift. "It also provides variety in projects and options for careers," says Seery. "An important part of this practice includes e-learning, which involves delivering knowledge to the desk of every employee as well as providing online coursework." **Spherion** is hiring quality assurance analysts, process improvement specialists, software developers, project managers and those certified in the Mercury Tool Suite. "We look at the market demands and the skill sets we have and create new learning opportunities for employees."

Both **Spherion** and the **Security Industry Automation Corporation**, known as **SIAC**

throughout the financial world, have been providing support to the financial services industry for more than three decades. **SIAC** was one of the firms that played a role in bringing Wall Street back online following the events of Sept. 11. **SIAC** has been responsible for the NYSE's flawless transition to Y2K and conversion to the decimal system. The **SIAC** team also developed a virtual, or three-dimension, trading floor known as 3DTE. "The results of our efforts show up every night on the six o'clock news," says Lynn Hart, **SIAC's** managing director of human resources.

**SIAC** added more than 200 positions in the first half of 2001. "We look for people who have a well-rounded background vs. a specialty," says Hart. "And we look for good business savvy, excellent skills to interface with customers and leadership potential."



For more job opportunities with financial services firms, turn to the pages of **ITcareers**.

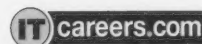
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**Software Eng. (mult. openings):** Designs, develops and implements computer software systems applying principles and techniques of comp. science, engineering and mathematical analysis. Analyzes s/w requirements to determine feasibility of design and directs s/w system testing procedures, programming and documentation using graphic user interface, object oriented design and related languages, internet based technology, h/w, s/w and o/s. Work requires frequent travel and relocation. Must have 2 yrs as Sr. soft. eng. or comp. prod. req'd incl. two years of demonstrable, professional exp. with 2 of A and 2 of B and one year of experience with 2 of C: A/Oracle, PL/SQL, SQL, SQL Server, SQL forms, Reportwriter, B) ProC, PowerBuilder, Rational Rose, Windows NT/98/95/2000, Visual Basic, C++, MS Visual Studio, MS Visual Source, J-Tools, Microsoft IIS, JAVA Script, HTML, ASP, WEBLogic. Master's degree or foreign equivalent in one of several IT fields: computer sci./appl. eng., math. Will accept BS plus 5 years of progressive experience. Salary: \$78,000/year, FT. Please submit resumes to: Mgr. Armstrong City Team PA Careerlink, 1270 North Water St., PO Box 759, Kittanning, PA 16001. Reference Job Order No. WEB212955.

Seeking qualified applicants for the following positions in one or more of the following locations - Memphis, Orlando, Irving/Dallas, TX and Colorado Springs: Programmer, Programmer Analyst, Sr. Programmer/Analyst, Technical Advisor, Software Engineer, Technical Analyst, Sr. Technical Analyst, Systems Programmer, Sr. Systems Programmer, Business Applications Analyst, Sr. Business Applications Analyst, Database Administrator and Sr. Database Administrator. Candidates must have a bachelor's degree in computer science, MIS, engineering or related field. Experience varies by position (from 0-7 years). Experience desired with one or more of the following: C, C++, UNIX, Java, SQL, logistics applications; object-oriented development; RDBMS; OLAP; total client server technology; CASE management; mainframe systems; DB2. Send resumes to: FedEx Corporate Services, Attn: Christine Decker, 1900 Summit Tower Blvd., Suite 1400, Orlando, FL 32810. EOE M/F/D/V.

**Computers-Citicorp N.A. seeks:** Software Developers-Web Developers/Administrators-QC Analyst-Project Managers-Programmers/Systems Analysts-Administrators-e-Commerce Specialist-IT Directors-Technology Managers-DBAs. For our Florida location with BS or MS in Computer Science; Engineering, Math; Science & Information Technology or equivalent or qualifying experience in any of the following: Windows, UNIX, NT, AIX, Sun/Solaris, S-Place, Sybase, Oracle, E-space, C++, ProC, VB, ASP, ASP, JavaScript, Netscape, MS IIS, Shell Scripting, HTML, SQL, ForPro, Perl, Java, Networking Security Tools, GC, Encryption Tools, CASE Tools, LAN/WAN/Voice Data & E-commerce Technologies. An equal opportunity employer. M/F/D/V. Mail resumes to Citicorp N.A., Human Resources, 1401 W. Commercial Blvd., Ft. Lauderdale, FL 33309. Attn: M.M. NO CALLS OR FAXES, PLEASE.

Call your  
ITcareers Sales  
Representative  
or Janis Crowley  
1-800-762-2977

**Software Eng. (mult. openings):** Designs, develops and implements computer software systems applying principles and techniques of comp. science, engineering and mathematical analysis. Analyzes s/w requirements to determine feasibility of design and directs s/w system testing procedures, programming and documentation using Oracle RDBMS and related languages, h/w, s/w and o/s. Work requires frequent travel and relocation. Must have one yr as soft. eng. or comp. prod. req'd incl. one year of demonstrable, professional exp. with: Oracle RDBMS, Java JDK, Visual Cafe, Servlet, Bash, degree or foreign equivalent in one of several IT fields: computer sci./appl. eng., math. Salary: \$70,000/year, FT. Please submit resumes to: Mgr. Armstrong City Team PA Careerlink, 1270 North Water St., PO Box 759, Kittanning, PA 16001. Reference Job Order No. WEB212943.

**SOFTWARE ENGINEER** to design, develop, test, implement, support and maintain software systems using COBOL, C++, SQL, CA-WAL, Cognos, Powerhouse, Perl scripting and Unix script languages; integrate web applications and legacy systems in UNIX and IBM mainframe environment; design and develop relational databases using Turbo Image, Ingres, Albacore and Oracle on HP 3000 and HP 9000 machines in MPE-X, HP-UX and Windows NT operating systems. Require: eight years of experience in the job offered or as Programmer/Analyst or any experience providing skills in described duties. 40% travel to client sites within the United States required. Competitive salary and benefits. Mail resume to: President, YASH Technologies Inc., 2100 Parklake Drive, NE, Suite F, Atlanta, GA 30345-2167.

**Programmer/Analyst:** Must have Bachelor's Degree in Computer Science or related field, and min. 2 yrs. exp. in job offered, min. 6 months exp. in Microsoft Access. Must have proof of legal authority to work in the U.S. Develop and implement software systems and client server applications; systems maintenance; enhancement support for client server applications under Windows; system admin. activities. Evaluate user requests for new and modified programs to determine feasibility, costs, time requirements, and compatibility with existing systems and computer capabilities. 40 hrs/wk, 8AM-5PM, \$63K/yr. Apply in person or by sending 2 resumes to: Gwinnett Job Order #GA 7037769, 1535 Atkinson Rd., Lawrenceville, GA 30043-5601 or the nearest Dept. of Labor Service Office.

Lahey Clinic has the following openings in our Burlington, MA office:

PeopleSoft Database Administrator (Job Code: POA)  
Database Administrator-SQL (Job Code: SQL)

Candidates must have either a minimum of 2 years PeopleSoft system administration experience or experience in a database technical support environment including administrative support and on-call experience.

Interested candidates should send resumes and job code to Patrick DeVito, Human Resources Generalist, Lahey Clinic, 41 Mall Rd., Burlington, MA 01805. No phone calls please.

**Systems Analyst, \$63K/yr, 8a-5p, 40 hrs/wk.** Analyze, design, develop, test and implement software systems using Oracle, Sybase, SQLBase, AS400, Centura (Gupta), RPG400, VisualBasic (VB), ForPro & MFCOBOL. Masters or equiv. in Comp Sci or Eng. Electrical, Electrical or related branch of Engg; Mathematics, Statistics, Commerce or Bus Admin. In lieu of Masters deg. in req'd major = 4 yrs work exp using ORACLE, Sybase, SQLBase, AS400, Centura (Gupta), VisualBasic acceptable. Must have proof of legal status to work in US. Report or send 2 resumes to: Gwinnett J.O. #GA 7043767, 1535 Atkinson Rd., Lawrenceville, GA 30043-5601 or nearest DOL Field Svc Off.

**Computer Programmers.** Minimum Bachelor Degree in Computer Science or equivalent. 2 yrs. exp. Devel., maint., and computer systems for fin. inst. as follows: TUXEDO, C, Unix, Shell, VFP, Web Logic, ASP, Socket API Programming, PowerBuilder 6.5, Visual Basic, Informix, SQL and TCP/IP. 40 hrs. per week, 9 a.m. through 5 p.m. Monday through Friday. Attn: CPPLU, PO Box 5275, New York, NY 10185-5275.

**Computer Programmers.** B.S. in Computer Science, related or equivalent, Microsoft MCSE-I. Min. 2 yrs. exp. professionally developing, applying, and maintaining computer systems and software 2 yrs. exp. with Windows 2000, MS Windows NT, Windows 9x, DOS, Macintosh, SCO-UNIX, SUN Solaris, SGI Irix, C++, MFC, VB, VC++, Assembly, Microsoft SQL Server, MS Access, ADO, TSQL, HTML, IIS4.0, Exchange Server 5.0, TCP/IP, Photoshop, Instalarhead. 40 hrs. per week, 9 a.m. through 5 p.m. Monday through Friday. Send Resume: Attn: CPWT, PO Box 5275, New York, NY 10185-5275.

**Systems Analyst.** Responsible for Wholesale Distribution Systems analysis, design, and development; website design and programming; computer system support needs; and research and dissemination of information on technology issues. Must have Bachelor's degree in Computer Science, MIS or related, one year experience, and knowledge of PROGRESS and UNIX. Send resume with cover letter to Big Rock Sports, LLC, Attn: Norm Pollock, 173 Hanks Drive, Newport, North Carolina 28570.

**R&D Engineer:** For language modeling. Perform programming development in a speech recognition group. Min req's: 2 yrs

exp w/ speech recog., expertise in large vocab language modeling, C programming. Respond to

HR@eScript.com

**Project Director-Plan.** direct and coordinate activities of computer professionals in multi-tiered client/server, internet/intranet based multi-user applications projects. Min. 3 yrs. exp. in position offered or as a Lead Tech. Consultant and "MS degree in Comp. Sci. or related field." In lieu of MS, will accept BS plus 2 additional yrs. of exp. in job offered or as a Tech. Consultant. Exp. references required. Salary \$94K/yr. Send resume to: Tekprobs, 85 Arlington Drive, Covington, GA 30016.

**Comp S/Ware Co. on Skillman,** NJ seeks Progrmr/Systems Analysts/Software Engrs. All positions req Bach degree in Comp Sci/Comp Eng/Math or field field & 1-3 yrs exp. Send resume to Options Solutions Inc, 3 Richmond Dr., Skillman, NJ 08858.

**Help Desk Level II** sought by IT consulting firm. Must have Bachelor's degree in Computer Science or related field and at least 2 years of IT experience. Experience in troubleshooting technical and hardware problems required. Respond to: Joseph Triolo, Spherion Infrastructure Solutions Group, 9 Polio Avenue, Lyndhurst, NJ 07071.

**"Wanted Programmer Analyst"** with SAP & Internet by IT Consulting Firm in Newington, CT. Must have at least two years experience in implementing net enabled modules, particularly SD/MM, utilizing SAP SD/MM Ver 4.0, HTML, Java Script, CRM, PERL, ARIS, MS Project and MS Access besides Master Degree in Business Administration. Respond to HR Manager, Inlowave Systems, Inc., 705 North Mountain Rd., Suite A-4, 220, Newington, CT 06111.

**Business Systems Analyst** 5 - Boston, MA. Evergreen Investments. Analyze & deploy web apps. using Systems Dvp. Lifecycle (SQL). Work w/ CRM software apps. Regs. BA in Comp. Science or Finance & 2 yrs exp. in pos. off. or as a Fin. Analyst or Business Consultant. The 2 yrs. exp. must incl. employment in the consulting or financial services industry, deploying web-based apps., using CRM and SQL, and financial market data vendors such as Bloomberg. 40hrs/wk, 8-5, \$68,000-\$80,100. Send resume 5 - or. to: Luzzano Konshuk, 200 Berkeley Street, Boston, MA 02116.

**Computer Programmers.** B.S. in Comp. Sci. or related. Novell C&N, Microsoft MCP Min. 2 yrs. exp. developing, applying, and maintaining heavily used database and LAN for financial services firm and 2 yrs. experience with MS Windows NT 4.0 (LAN) 9x/NT, NOVELL, Netware 4.11 (LAN), MS Dos, C/C++, MFC, VB, VC++, Pascal, Assembly, Microsoft SQL Server 7.0, VFP, FoxPro, FoxBASE, 40 hrs. per week, 9 a.m. through 5 p.m. Monday through Friday. Send Resume: Attn: CPPGR, PO Box 5275, New York, NY 10185-5275.

**SYSTEMS ANALYST:** Analyze and design system. Duties as team lead. Utilize VB6, ASP, SQL Server 7.0. Req.: Bachelor's in Sci., Math, Eng., or related. (Employer will accept a foreign degree equiv.) 1 yr. exp. in the job off. or 1 yr. as programmer/analyst or comb of both. Resume to: Definition 6, Inc. 2115 Monroe Dr., Atlanta, GA 30324.

**SAP Data Conversion Engineer:** Design and Development of SAP computer software systems and data conversion. Required: BS in Computer Science and/or Math or Electrical Engineering or related, and certification in SAP R/3 Controlling Track. No Phone Calls. Resumes forwarded to: P.W. Kennedy, BackOffice Associates, Inc. P. O. Box 1215 Orleans, MA 02553 or fax to 508-255-2707.

**Several computer related positions** available for large software development, support and sales company. Degree, technical skills & experience vary per position. Send resume to Kim Voulgaris, MAPICS, Inc., 600 West Cummings Park, Woburn, Massachusetts 01801.

**SAP Consultant, Atlanta:** Prep. feasibility studies for SAP applications in manufacturing environments. Identify & implement solutions w/in SAP system; design, develop, write, test programs & perform SAP implementation. Prepare end-user documentation & training material. Train end-users. Provide post implementation support & maintenance. Requr: Bachelors (or foreign degree equiv) min. 1 yr in job offered or as SAP User Support Analyst. Send resume to HR, 1513 Johnson Ferry Rd. Ste B-6, Marietta, GA 30062.

**Thomson Financial** currently has a position available for Team Manager at our Boston, Massachusetts office. Please send resumes to: Thomson Financial, Attn: HR, 22 Thomson Place, Boston, MA 02210. Fax: 617-856-5601. We are an equal opportunity employer.

**Chief Technology Officer/Director/IS Consultants** needed. ITTI, LLC, an Alpharetta, GA based company, is seeking qualified candidates possessing MS or equivalent and relevant work experience for senior level positions. Experience with negotiating and management in managing broad technology projects. Work with some of the following: CORBA, EJB, ATG Dynamics, Perl, Sun Solaris and Oracle. Mail resume to: ATTN: HR, ITTI, LLC 80 Old Sandhurst Landing Alpharetta, GA 30022.

**FirstRain** is a leading software development company that markets and sells a family of software products for web services, business portals and mobile information solutions. We currently have multiple openings for senior software developers, software engineers, and product specialists. FirstRain provides a dynamic and creative work environment where you can learn and grow your skills. We provide the opportunity to work on some of the leading internet and/or wireless web-based technologies being developed. Excellent compensation and benefits package. Please respond via e-mail to careers@firstrain.com.

**Software Consultant** wanted for NJ based Co for job lots throughout the USA. Must have Bachelor's degree in Comp. Sc., Engg., & 2 years of exp. in Comp. Software Developing and/or Consulting. Respond to: HR Dept., Akshay Software International, Inc., 2025 S. Lincoln Hwy, Ste 207, Edison, NJ 08817. (Ref: RG8048IM).

**Sr. Sys. Analyst** wanted by NJ based Co. Must have Bachelor's degree in Comp. Sc., Engg., Mgmt. Info. Sys. or Bus. Admin. 6 yrs. of exp. in Comp. S/W developing and/or consulting. Will accept Master's degree & 3 yrs. of exp. in lieu of the Bachelor's degree & 6 yrs. of exp. Respond to: HR Dept., Bathena Holding Company, Inc., 1659 State Highway 88, Brick, NJ 08724. No phone calls. (Ref: GG7963IM).

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IT Data Analyst I - First Union, Charlotte, NC. Provide tech. programming & data processing using SAS & Unica print/Affirm to implement into-based marketing activities, incl. ad-hoc reporting & analysis, data-mining, campaign mgmt., and program eval. Reqs. BA in Info. Systems, Comp. Science or Mathematics & 1 yr. in pos. offering or as Teaching/Research Asst. or intern. The 1 yr req'd exp. must incl. work w/ database design & implementation, appl. dvpl., C, Unix, & SQL. 6 mths. of req'd exp. must have included work w/ Oracle. 40hrs/wk. Send resumes to Andrew Barnes, 1525 West W. 1. Harris Blvd., Charlotte, NC 28268-0134.

SYSTEMS ANALYSTS: Advent Global Solutions one of the fastest growing IT service companies requires Systems Analysts to analyze, design and develop operational procedures to automate processing and to develop new systems to improve production. Knowledge of SAP, Oracle, and other business related software is essential. Needs a Bachelors in Engineering/CS or in any related field combined with 5 years relevant experience in designing and developing computer software systems. Please send resumes to Advent Global Solutions, Inc., Human Resources, 17314 29240, Suite #205, Houston, TX 77064 or Fax: (281) 970-3639.

Acro Service Corp., an IT, engineering and consulting company located in Livonia, MI is seeking IT professionals possessing MS/BS or equiv. and/or relevant work exp. for employment. Work with three (3) of the following: Oracle Web Server, Distributed Operations Management System (DOMS), Designer 2K, Oracle, UNIX Shell Scripting, Pro/C, PL-SQL and Web Deployment. Mail resumes to: Acro Service Corporation, c/o Beth McQueen, 17187 N. Laurel Park Drive, Suite 165, Livonia, MI 48152.

Telecommunication Analyst (F/T) Richardson, TX. Analyze and provide wireless telecommunication system (GSM, UMTS & CDMA technology) specification requirements; provide models for predictive analysis of algorithms, capacity and performance of core network design; Research relevant wireless technology and internet standards; recommend protocols in 2.5G, 3G, NGN domain to define system architecture allowing network-wide interoperability. BS in electrical/electronics/computer engineering and 1 year related experience. Send resume to HR, Spatial Wireless, Inc., 1651 North Glenview, #216, Richardson, TX 75081.

Operations Coordinator: Establish a schedule; run batches; monitor log/reports; conduct troubleshooting errors; develop improvements on processes; coordinate daily operations; monitor and maintain daily tape backup cycles and off-site storage service; and provide user account/security administration; install and upgrade Novell Netware and Microsoft NT servers; provide installation, testing, configuration and implementation of ERP (Enterprise Resource Planning) products.

Bachelor's degree in Computer Science required. One year experience in the position or one year as a Systems Engineer and/or Senior Executive required. Related occupation must include experience installing ERP products.

40 hrs/wk; 8:00am-5:00pm; \$5,000/year. Must have proof of legal authority to work permanently in the U.S.

Send 2 copies of both resume and cover letter to: Illinois Department of Employment Security, 401 South State Street, Chicago, Illinois 60605. Attention: Leonard Boksa, Recruiter Number V-L-30684-B. NO CALLS. AN EMPLOYER PAID AD.

## Computer/Info Systems

### SR PROGRAMMER ANALYST

Analyst to develop, program and support custom mfg system. 5 yrs exp. Needs PB, VB, Oracle, Sybase, ASP, XML skills. Bachelor degree or equivalent.

Resume to: Royal Die-John 949

E. Green St., Bensenville, IL 60106.

Sr. Software Engineer: Wanted by optical networking system developer in Oceanport, NJ to design Wavelength Management System Server and infrastructure software. Bachelor's degree or equivalent in Computer Science or related field and a minimum of 2 years of experience in the Development of Network Management Systems for Optical Communications. respond to: Doreen Connors, HR Dept. (ref# 008), Tellium, Inc., 2 Crescent Place, Oceanport, NJ 07757.

SYSTEMS ANALYSTS: Systems On Line Inc., Houston based company requires Systems Analysts to research, analyze, design and develop operational procedures to automate processing and to develop new systems to improve production. Knowledge of SAP, Oracle, and other business related software is essential. Needs a Masters in Engineering/CS or in any related field combined with 1 years relevant experience in designing and developing computer software systems OR Bachelor's combined with 5 years relevant experience considered. Please send resumes to Mr. Srinivas Sontu, Recruiter, Systems On Line, Inc., 3737 Hillcroft, Suite # 275, Houston, TX 77057-7716.

Manhattan Associates, Inc., a worldwide leader in supply chain synchronization systems is looking for IT professionals to join our team. Current openings include:

**PKMS Implementation - all levels.** Consultants & specialists will coordinate client projects & interact with client org. evaluate client bus. ops & sys environments to implement client proprietary software sys, advise & design sys test plans, develop test & product environ at client sites, & develop proposals & supports for sales presentations. Consultants req: BS in comp. sci. engg. or related tech. field. Substantial travel req. and Specialists req: MS in comp. sci. engg. or related tech. field or management field.

**Software Developers.** Assist in defining sys scope & requirements, analyze use of existing sys requirements & design & develop sys in light of future directions in hardware & software growth. Develop & direct design of software sys MS in comp. sci. engg. or related tech. field. Technical knowledge of: RPG/400, Java, C++, MicroFocus Cobol, or COM/VC++/Visual Basic demonstrated through exp. or eq.

**Software Analysts.** Design, develop, code, test & debug software applications. Req. BS in comp. sci. engg. or related tech. field, tech knowledge of RPG/400, Java, C++, MicroFocus Cobol, or COM/VC++/Visual Basic demonstrated through exp. or eq.

**Senior Software Engineers.** Develop & direct software programming, documentation & sys testing procedures for software program apps. Req. MS in comp. sci. engg. or related tech. field & 3 yrs exp as an analyst, programmer, or developer, or a BS in a tech field & 5 yrs exp as an analyst, programmer, or developer. Tech knowledge of RPG/400, Java, C++, MicroFocus Cobol, or COM/VC++/Visual Basic demonstrated through exp. or eq.

Resumes to: J. Lundy, Manhattan Associates, 2300 Windy Ridge Pkwy, 7th Fl. North, Atlanta, Georgia 30339

Multiple openings for Prog/Sys Analysts, DBAs, SysAdmin and S/W Engineers to design/develop S/W apps using some of the following - Cobol, CICS, DB2; Java, PB, HTML, XML; data warehousing, cognos; wireless web technologies; C++, VB, Developer 2000; SAP, ABAP/4; Oracle/Sybase/Informatica DB admin; Unix/NT system admin; Net Commerce, MQSeries, Weblogic; BS/MS or equivalent in CS, Engg, Science, Math or Bus Admin req. Salary commensurate with exp. F/T. Travel/relocation involved. Resumes to: HR, Smartsoft International 4898 South Old Peachtree Road, Suite 200, Norcross, GA 30071.

## Software Engineers

### Hardware Engineers

### Test and Quality Engineers

Positions available in MA and FL.

Post resume online at: [www.unispherenetworks.com](http://www.unispherenetworks.com);

or send resume to:

Unisphere Networks,

10 Technology Park Dr.

Westford, MA 01886;

Fax: (978) 569-0071;

e-mail:

[jobs@unispherenetworks.com](mailto:jobs@unispherenetworks.com)

EOE. Principals only please.

ShaktiSoft, Inc., a national computer consulting company, requires following skills for various computer software positions:

- C, C++, Java, JavaScript, COBOL, PERL, SQL, Pro/C, XML, HTML.
- Visual Basic, ASP, Visual C++, MFC, Windows SDK, Power Builder, Crystal Reports, IS, Informatica, Adobe X, NSI, etc.
- OOAD, COM/DCOM, Corba, Rational Rose, UML.
- Oracle, MS SQL Server, Informatica and Sybase developers/administrators
- Unix, Linux, Windows NT/2000 system and network administrators.
- Packaged Solutions (SAP, Oracle Applications, PeopleSoft, Baan)
- COBOL, CICS, IDMS, MVS, IMS, AS/400, RPA/400
- SOA Suite, Win Runner, Load Runner, MS-Test, White/Black Box Testing
- VxWorks, RTOS, pSOS, SNMP, TCP/IP, Assembly, Telecom
- DSP, ATM, Frame Relay, ASIC design, VHDL, SAS, IDSN, Routers
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## The Discerning Eye

**H**OW DO YOU GET TO BE a Premier IT Leader? Vision. Yes, there are other requirements — you have to do something with that vision, and you have to spread the vision around — but if you don't have vision, you're not even in the game.

And notice: I didn't say a vision — just vision. Vision isn't some high-flying, wild-eyed technology dream, freed from the limits of gravity and prag-

matism. Sure, that's what some self-proclaimed IT visionaries might have you believe. But we've all seen those visionaries come and go — and often enough, we've seen the wreckage left after they're gone.

No, vision isn't the opposite of pragmatism. Vision is the opposite of blindness.

Vision means having the ability to see the big picture. To recognize the real requirements of the situation. To spot the political pitfalls, as well as the opportunities to help the organization. To see from the point of view of businesspeople and executives



**FRANK HAYES**, *Computerworld's* senior news columnist, has covered IT for more than 20 years. Contact him at [frank\\_hayes@computerworld.com](mailto:frank_hayes@computerworld.com).

and business partners and competitors and users in the trenches.

Vision isn't just about looking. It's about knowing where to look and what to watch for. Looking under rocks and in dark corners in any organization is a thankless task. But if you don't look, you don't find the problems that need fixing.

Vision is about opening your eyes — wide.

And vision isn't something just for CIOs. Everyone in the shop needs it.

Part of it must be shared vision — a consistent understanding of what's important and what's not, a uniform

grasp of how your business works and the IT department's part in making it work better. When everyone from the CIO down to the most junior help desk staffer can see these things the same way, it cuts confusion and makes every task more efficient.

But no one can afford to waste a hundred pairs of eyes — or the brains behind them. Everyone in the IT shop needs to see and make sense of all the technology, all the business needs and everything standing in the way of putting one in the service of the other.

Why does vision matter? Because all IT shops have about the same amount of money to work with. They have access to the same technology, the same talent, the same information from the outside world.

Vision means seeing how best to use what you've got — and how to handle the strange politics, weird technology legacies and unique challenges that make your IT shop different.

With vision, you can see where you're going. Without it, you're rattling around in the dark.

So open your eyes wider. Look for the big picture — and the details. There's a lot to see, and there's never been a time when vision was more critical, either in or out of IT.

And even if you don't ever make the Premier 100, you'll have the biggest advantage these IT leaders share. Because once you can see what you've got to do, you can get a lot more done. ▀

## What Does It Take to Be a Leader?

*Premier 100 honorees offer their advice to aspiring leaders*

### Robert B. Carter

Executive vice president, CIO  
FedEx Corp., Memphis  
"Be courageous. Lead a balanced life. Practice being a great communicator. Have an unfailing respect for people."

### Parvez K Erani

Vice president,  
information management  
St. Mary Medical Center,  
Long Beach, Calif.  
"Keep up with technology and

update your skill set as often as you can. Learn to be humble about your skill sets, because if you're good, you're hard to overlook."

### Michael Prince

Vice president, CIO  
Burlington Coat Factory Warehouse Corp., Lyme, N.H.  
"Work hard, learn everything you can about your business and technology, empower others, set a good example and have fun."

### Joe Neubauer

Director, software development  
Martin Group Inc., Mitchell, S.D.  
"Pick the best people you can find. Make sure they are team players and treat them right. Listen; don't overreact; take time to admire what you and your staff have accomplished."

### Bill Seltzer

Executive vice president, CIO  
Office Depot Inc.,  
Delray Beach, Fla.

"Develop good business and people skills. Never assume you know the answer. Treat everyone with honesty, dignity and respect."

### Byrne Chapman

Vice president, information services  
American Family Mutual Insurance Co., Madison, Wis.  
"Learn the business you're supporting and develop strong relationships with peer leaders."

## 100 PREMIER IT LEADERS 2002

## Vital Stats

### Who are the Premier 100 honorees?

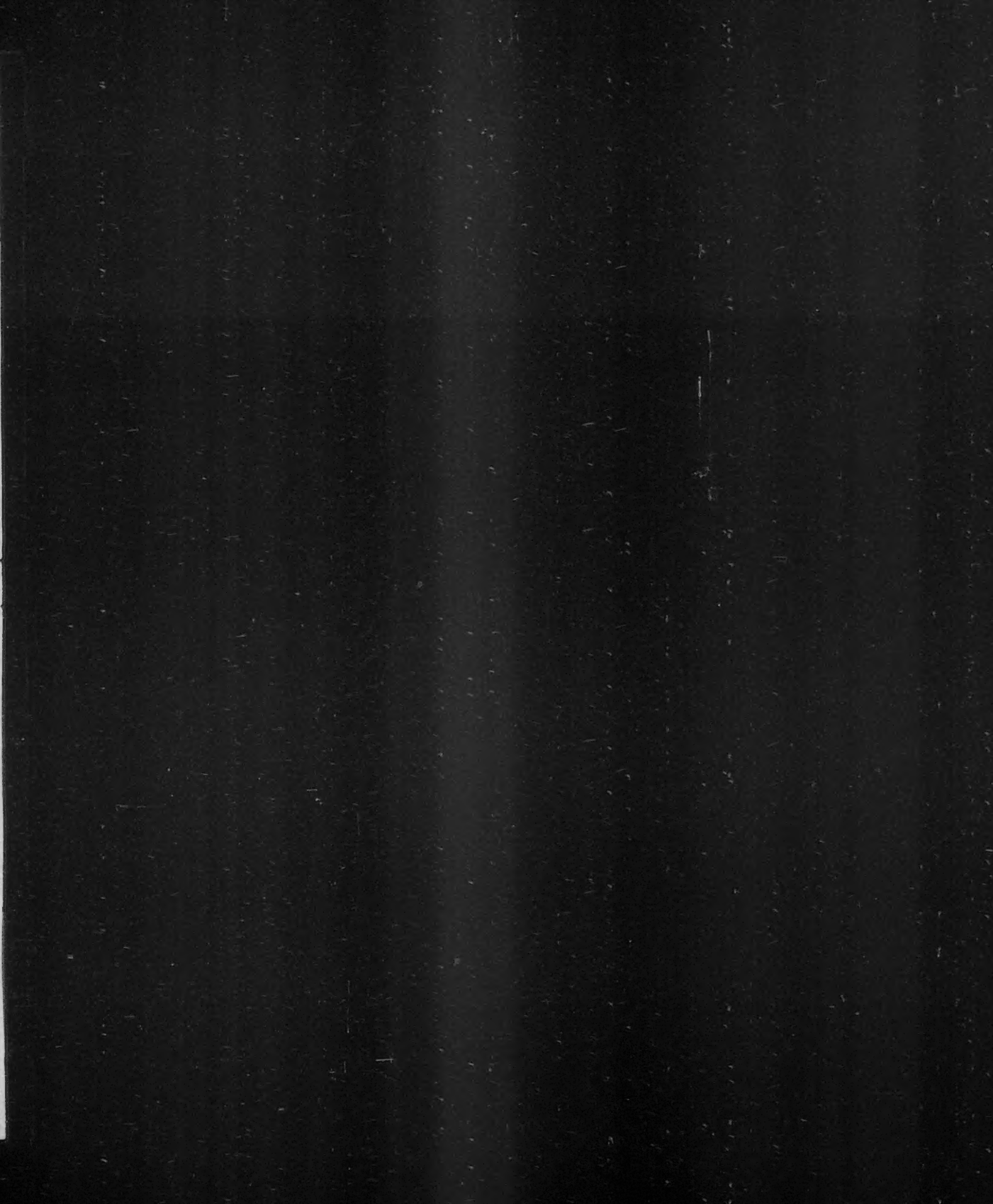
44	Average age of Premier 100 honorees
89%	Percentage of men in the Premier 100
11%	Percentage of women in the Premier 100
13%	Percentage of Premier 100s who previously worked in consulting
6%	Percentage of Premier 100s who previously worked in sales
45%	Percentage of the Premier 100 honorees responsible for more than 100 employees
61%	Percentage of the Premier 100 who saw their staff size increase in 2001

### Their top 5 projects for 2002:

1	Windows 2000 migration
2	Enterprise resource planning
3	Wireless
4	CRM
5	Data warehousing

### The top 5 industries they represent:

1	Finance/insurance/real estate
2	Computer services
3	Health/medical services
4	Business services
5	Manufacturing







TOP  
COMPUTERWORLD

TECHNOLOGY AND THE BOTTOM LINE

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Racing along in the fast lane of e-business, few are willing to talk about what's really important: Measuring value. p. 18

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LETTER FROM THE EDITOR

## A Whole New Kind of ROI

*A magazine for senior execs who see technology in business terms*

**T**HESE ARE THE DAYS OF THE BOTTOM LINE. It matters to everyone, from dot-commers to corporate climbers. It matters to your CEO, of course. But it's also crucial to your senior executive colleagues, whether they hail from finance, operations, sales, marketing or information technology.

These are also the days of technology's greatest impact on the bottom line. Savvy, strategic use of IT is proving itself to be the single biggest differentiator for a thriving business in a world being reshaped by the Internet economy.

"Few of the Fortune 500 retailers and manufacturers steeped in the thrill of the Internet are willing to talk about measuring the real value of their e-business ventures," writes Kathleen Melymuka in our cover story about ROI metrics for Web projects. Yet she found executives from Raytheon Corp., Deere & Co. and Martha Stewart Living who were willing to talk in detail about how they actually measure e-business value. Those are the kinds of stories we'll bring you, every other month, in this new magazine.

*Computerworld ROI* is written for you: the senior executive who sees the value of IT but thinks about it in business terms. The name *Computerworld ROI* is meant to convey that intersection of technology and business where so many executives live today. In

researching the idea for this new magazine, we talked with dozens of corporate managers and were struck by how deeply the topic of technology payback resonated. "Return on investment and the entire IT value proposition is a constant challenge for us," one confided.

Of course, you can also spin the ROI acronym — that venerable business shorthand for profit — to stand for "return on information" or even "return on innovation." But the real point of a broader vision of ROI is that the bottom line ultimately means more than just a balance sheet. The measure of technology's true return is a slippery metric. No one seems to have found a one-size-fits-all method for measuring ROI.

Consider, for example, the balanced-scorecard approach used by Raytheon to measure its e-business effectiveness.

The \$20 billion defense and electronics giant tracks everything from customer loyalty and transactional excellence to financial performance and infrastructure reliability. As Eric Singleton, Raytheon's director of global e-business, told us, "The purpose is to manage the business, drive decisions on whether to keep the business, add resources in areas where there's a gap and figure out how to capture successes and apply them to other e-businesses."

That's bottom-line business thinking about technology. That's a whole new kind of ROI.

— Maryfran Johnson



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Everyone is rolling out, updating, enhancing or otherwise spending gobs of dough on Web projects. But does anyone have a sound methodology for determining the value of these Internet investments? Some do; some don't. Here's a look at high-profile companies that are actively pursuing Web opportunities — but not without first conducting a careful bottom-line evaluation.

BY KATHLEEN MELYMUKA

### 24 New Top Dogs of High Tech?

As companies increasingly leverage the Internet for commerce, IT management has been pushed into the forefront of business decisions. That has inspired CEOs to look outside the IT ranks for leadership of their firms' technology assets. What these new low-tech CIOs are learning is that they must lean on others for technical savvy while their companies are leaning on them to bring business sense to technology issues. BY STEVE ULFELDER

### 30 Failing to Construct the Seller

According to the authors, if you're leading a sales force automation project, you're likely to (a) fail, (b) lose millions of your company's dollars in the process and (c) need a new job. So why even attempt it? Well, there's a significant upside if it succeeds. But you need to have a penchant for risk-taking — and low blood pressure. BY SEAN T. KELLY AND JOHN A. BARRY

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The more than 140 dot-coms that failed last year left behind some key ROI lessons. Lesson No. 1: Count cost savings and customer conversion expenses, not eyeballs and click-throughs.

BY LINDA A. ROSSETTI

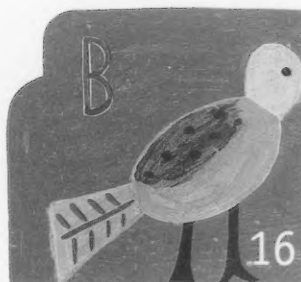
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## ROI ON THE WEB

Check out *ROI* on the Web at [www.computerworld.com/roi](http://www.computerworld.com/roi) for the truth about technology and the bottom line.

# CONTRIBUTORS

"The New Economy is for real," says **GRADY E. MEANS** ("The X Economy," page 16), "and it will completely transform business." Means monitors this transformation from Price-waterhouseCoopers, where he leads the strategy consulting group. He is co-author of two books, *MetaCapitalism* and *Wisdom of the CEO* (John Wiley & Sons, 2000).



As an adviser to top executives for nearly 20 years, **THORNTON A. MAY** ("Golden Rules," page 14) found resonance in the idea of a magazine devoted to technology ROI. "It's spot-on the issue of the new millennium. High-value IT is the DNA of the New Economy," he says. May is corporate futurist and chief awareness officer at Guardent, a security solutions provider, and an adjunct faculty member at the John Anderson Graduate School of Management at UCLA.



It's not bits and bolts that get **ROI** contributor **KATHLEEN MELYMUKA** pumped up. Her cover story, "Measuring your Online Profitability" (page 18), got to the heart of her writing passion: "My favorite stories are those pointing out that the emperor is buck naked. That's what I loved about this story: The idea that so many businesses are 'just doing it' without a clue about the return." A *Computerworld* reporter, Melymuka's next project involves figuring out what "knowledge management" really means.

What **ROI** contributor **LINDA A. ROSSETTI** sees in the e-business marketplace runs counter to the common perception. "Companies are starting to see the results of e-business," she says, "so they're accelerating their commitment." Rossetti's story, "The Big Bounce" (page 34), looks at four lessons that can be learned from the failures of dot-coms. She is founder and CEO of eMaven, an online strategy consulting firm in Boston, and is a frequent speaker on the topics of e-business models and ROI.

What's the key to a successful start-up? Stellar leadership, says **ROI** columnist **GUS TAI**. His five traits for great stewardship ("Leaders in the Rough," page 40) form the checklist for his own search for future market leaders. Tai is a general partner at Trinity Ventures, which invests in early-stage software and communications companies.



## ALSO IN THIS ISSUE

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## exec priority Think Global, Act Global

**T**HERE'S NO DOUBT THAT PRESSURE TO "globalize" Web sites and information systems will come not only from customers, but also from the boardroom. More than three quarters of U.S. boards of directors are tackling global issues on a regular basis, according to an annual survey released by Korn/Ferry International.

In fact, globalization is included in regular overviews of corporate strategy, and board members say they need to improve their global representation.

"The message is quite clear," says Peter Crist, head of global board services at Korn/Ferry in New York. "Boards recognize that the global economy is a powerful influence on business decisions and bottom-line results and, consequently, are elevating it to a much higher priority."

This isn't just paying lip service, either. The 1,000 respondents said boards are adding one or more directors who bring hands-on overseas experience, recruiting more foreign nationals for board seats and ensuring that new directors have "a global mind-set."

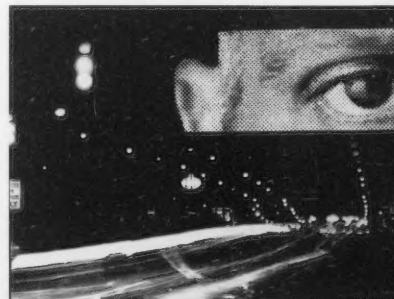
## eye on the prize Time to Ditch Rearview Mirror

**S**OMETHING'S WRONG HERE: WE'RE RACING to run our businesses on Internet time, but we measure performance by looking in the rearview mirror at last month's sales. This reliance on backward-looking metrics has got to stop, says Forrester Research Inc. in Cambridge, Mass.

It's just too reactionary, warns Forrester analyst Laurie M. Orlov, who claims that the wave of the future is "business velocity management." That means developing a customized scorecard that taps internal, external, operational and fiscal measures of business performance — the equivalent of the leading indicators used by economists to look ahead at the U.S. economy.

Exactly how do you do that? Collect data from all departments and outside partners using enterprise resource planning and analytic applications, says Forrester. Then, after modeling company processes and mining historical data for predictive benchmarks, feed real-time data into the model to monitor the company's business velocity. Whew!

Orlov says the payoff from this work is that forward-looking indicators give a CEO more time to address trends, change gears, seize a new business opportunity or tackle a looming crisis.





India's programmers  
race ahead in the  
software industry.

## offshore coders **Cheaper and Better**

**I**T'S TIME TO SHAKE THE NOTION THAT computer programming is a uniquely American skill. Some of the best software in the world is produced in India for export. "The offshore outsourcing market has evolved far beyond legacy systems maintenance and assorted low-end development work," says Cynthia Doyle, an analyst at IDC in Framingham, Mass. "Today, many offshore service firms have the skills and

expertise necessary to deliver high-end development work for Web-based and enterprise applications."

In other words, U.S. companies should seriously consider foreign programming firms when outsourcing technology projects. In fact, Doyle says, the mature software-exporting firms in India will provide strong competition to U.S.-based software consulting companies.

### talking head

"It's harder than you might think to **squander millions of dollars**, but a flawed software development process is a tool well-suited to the job."

— ALAN COOPER, *The Inmates Are Running the Asylum*

PHOTOGRAPH: DAVID WELLS/MATRIX

## the list **Online Blunders**

**10**

- 1** Requiring a password to access customer service.
- 2** Making the customer service section hard to find.
- 3** Not offering search engines for general customer queries.
- 4** Having no site map.
- 5** Not internationalizing your site.
- 6** Not responding to customer messages.
- 7** Allowing customer channels to be out of service because systems are down.
- 8** Employing unfriendly phone agents.
- 9** Not integrating between click and brick (Web and traditional stores).
- 10** Requiring customers to download software to get service.

Source: Gartner Group Inc., Stamford, Conn.

zero cost savings

**Question:** How have your online purchasing activities affected the **total cost** of ownership of your product or services?



Base: 368 companies

Source: National Association of Purchasing Managers/Forrester Research Inc., January 2001

pop goes the market

## B2B: From Billions to Trillions

Projected business-to-business e-commerce revenue by industry:

	2000	2005
Computer/telecom equipment	\$90 B	\$1T
Food/beverage	\$35 B	\$863 B
Automotive	\$21 B	\$660 B
Industrial equipment/supplies	\$20 B	\$556 B
Construction/real estate	\$19 B	\$528 B

Source: Jupiter Research, New York



business pioneers

## E-Procurement: OK to Be No. 2

**A**NALYSTS AT GARTNER GROUP INC. IN Stamford, Conn., are noticing a curious phenomenon: Even companies that are usually IT followers are racing to be the first to implement e-procurement systems. But then the pioneering projects get bogged down in technical and political issues. What's wrong here?

The problem is that "there is no first-mover advantage in e-procurement," as the title of a Gartner bulletin puts it. Being a pioneer in this market is a huge hassle. The projects grow out of control, the software vendors are immature, the e-procurement software itself is immature, and very few consultants have much experience with it. Plus, "early adopters of e-procurement are likely to have to educate many of their suppliers," the bulletin says.

Worst of all, early e-procurement implementers face high prices for software and transaction fees, while "later entrants can expect to have many more attractive offers available." The bottom line: "Those who expect a rapid return on investment are in for a big disappointment," Gartner reports. So scale down those expectations of "miraculous transformation" and start with a modest project focused on improving the process of ordering white-collar supplies.

TOP LINE COMPILED  
BY MITCH BETTS



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BY THORNTON A. MAY

## Annual IT Budget? Kill It

*CIOs need Net-style flexibility for enterprise projects*

**A**NY OBSERVER OF THE CONTEMPORARY DEBUT DE siècle scene would no doubt agree that technology is ground zero in the New Economy. CIOs and CTOs have become celebrities of the emergent digitally aware society. The lifeblood of our good times, of course, is money. And the IT spigot is wide open.

Corporate futurist types like me predict that by the year 2004, the average Fortune 500 firm will have to spend 20% to 40% of its operating budget on IT just to stay competitive. Sound crazy? Just ask Merrill Lynch, Charles Schwab and Vanguard Financial what percentage of their budgets are spent on IT today.

I strongly believe that IT done right creates shareholder value. But I have to step back from the technology tribe and

observe that we are in danger of believing our own PR. Financially, and in many cases operationally, IT is still a mess. In the words of one financial controller: "I don't care what the CEO says; you guys still suck."

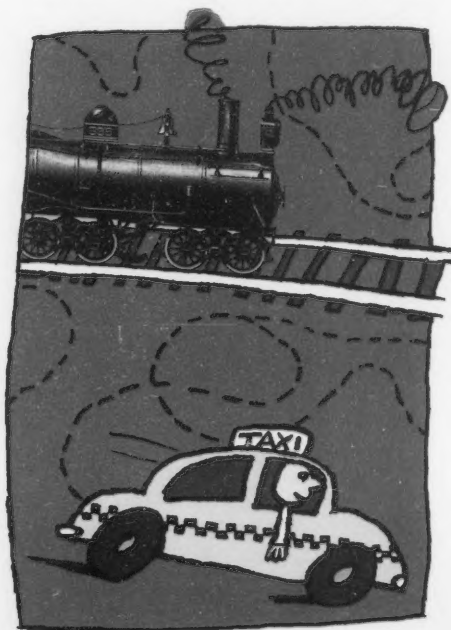
Charlie Feld, the former CIO at Delta Air Lines, maintains that IT doesn't have a skill set shortage but is suffering from a poorly managed, poorly structured delivery engine. He and other longtime CIOs contend that the days of large IT shops are numbered. Such organizations are too big, too slow, too expensive and add too little value.

I am fortunate to have instructed executive audiences at a number of prestigious universities in the U.S. and abroad, and to each impressive collection of senior executives, I always pose this question: "Have you been trained in how to make good IT investment decisions?" In 17 years of teaching, no one has ever answered yes. Not only are executives unschooled in making these decisions, but they also fail to learn from the bad IT investments of the past.

How do we change this? First, kill off annual budgeting cycles. In this fast-changing sector, rigid adherence to such cycles borders on malfeasance. Bob Kaplan, a CPA and Harvard Business School professor, says annual budget cycles measure the wrong things. Jeff Williams, a professor at Carnegie Mellon University and author of *Renewable Advantage: Crafting Strategies in Economic Time*, says the biggest piece of "wrongness" is the time frame used to measure the enterprise. Business isn't an annual game, so budget cycles should be replaced by project cycles driven by opportunity.

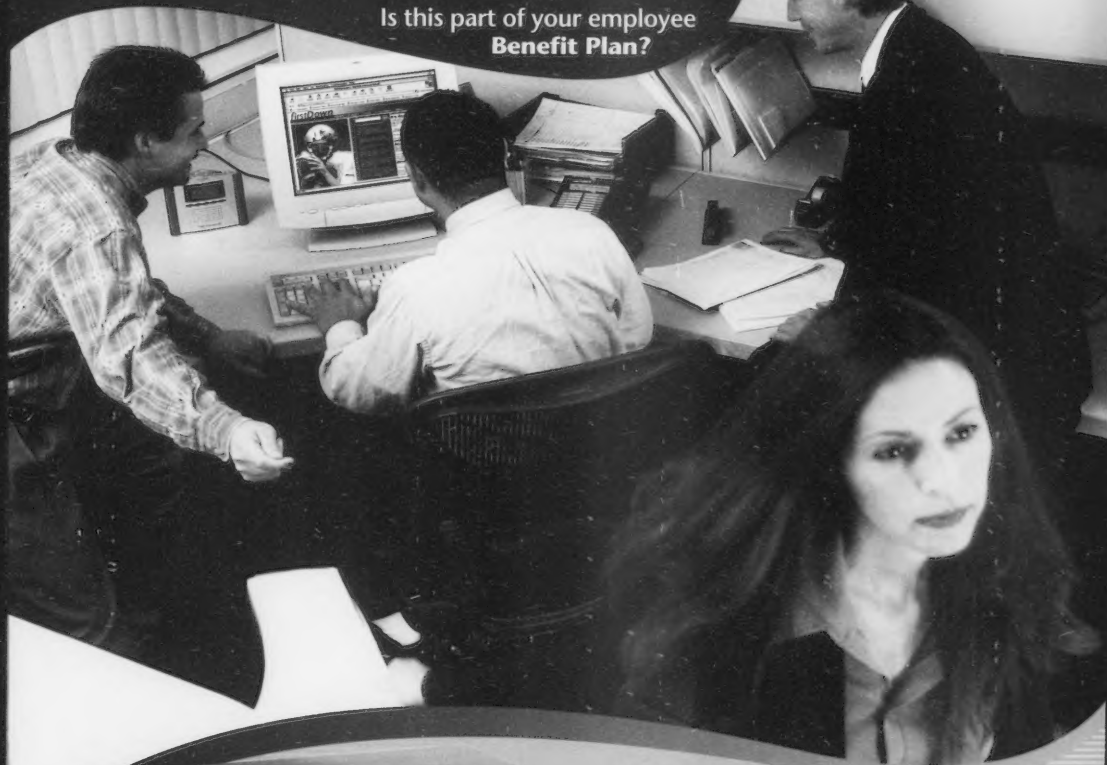
Think of it in terms of railroads and taxicabs: Railroads were designed with rigid rules, predetermined tracks and no real flexibility. Taxicabs plan far less. They cruise the city, seemingly at random but in fact concentrating their efforts in areas where customers are more likely to need them.

CIOs are facing organizations that want taxicablike customizability but are saddled with financial systems marred by train-track inflexibility. Why anchor future spending on past spending? Let's change this to a system more akin to bond trading, where CIOs enter and exit opportunities (or projects) as the environment changes. Perhaps then that celebrity status will be truly deserved. **ROI**



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BY GRADY E. MEANS

## Rebirth of the New Economy

*You won't achieve value payoff until you transform your business model*

**T**HE NEW ECONOMY ISN'T ABOUT TECHNOLOGY — it's about transformation. Despite the most recent downturn in the financial performance of many high-tech firms, we remain in the midst of an economic revolution of epic proportions, comparable to the transition from hunting to farming or from farming to the industrial organization. And what's more, this is just the beginning.

This revolution is being driven by online business-to-business concepts and network exchanges. These marketplaces and trade exchanges offer enormous capital leverage and opportunities of scale, creating value in every sector.

In the 19th century, the Industrial Revolution ushered in new technology, but it primarily enabled companies to exercise massive economies of scale. Throughout the 1990s, enterprisewide technology allowed companies to develop common business models to reduce costs, but more important, to respond to changing business conditions with great speed and flexibility. In most cases, productivity increased, and growth followed.

Now we're in the era of online business-to-business, in

which trade exchanges, for example, allow for the enormous leveraging of capital, driving companies to scale up capacity with relatively small investments and to acquire customers at far lower costs than ever before. The result is huge growth of market potential and value.

There is competition in every industrial sector worldwide to develop business models that most effectively lead the transformation to the New Economy. For the most part, these initiatives begin with the creation of industry-wide trade exchanges. Some have been successful. Many have failed. There are endless examples of good technology models, but unsuccessful transformational business models lead to value decline. On the other hand, there are a few excellent examples of companies that have started with a good business model, pieced together the appropriate technology and driven value.

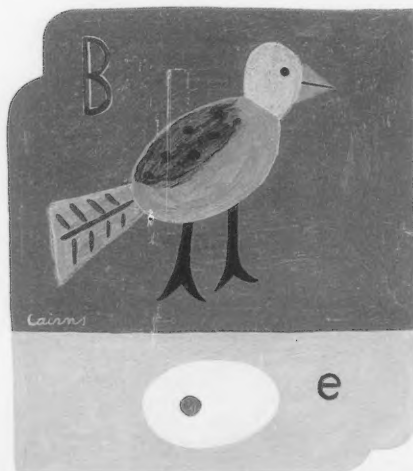
Thus far, economic breakthroughs have been about strong business models, excellent management discipline and appropriate application of technology to achieve value payoff from the New Economy.

But many firms have taken Old Economy business concepts and strategies into relatively limited New Economy trade exchanges. This doesn't work — and shouldn't be expected to. The successful companies in this new era are those that have dramatically transformed their own business model and, in turn, designed trade exchanges to give them maximum capital leverage and flexibility in the marketplace.

This column is called "The X Economy" because it explores how New Economy concepts such as trade exchanges provide capital leverage and generate value. Future columns will examine the specifics of successful New Economy models, outline business strategies that will work in the New Economy and document failures of concept and implementation.

In the past year, I have seen three generations of trade exchange design and transformational approaches. The world is moving quickly, and during the next few years, some companies may approach trillion-dollar market capitalizations. There has never been a more exciting era in business history.

ROI







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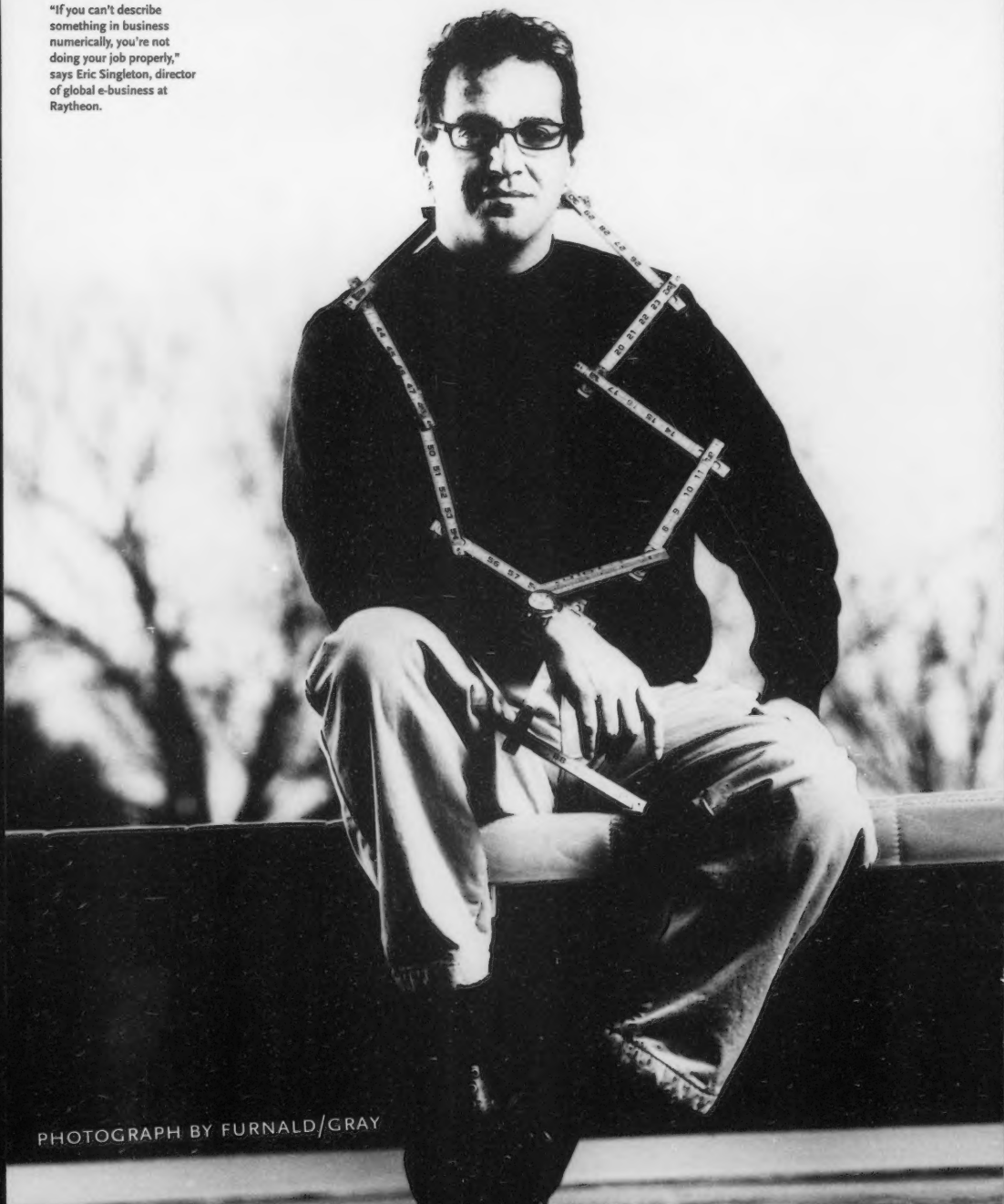


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"If you can't describe something in business numerically, you're not doing your job properly," says Eric Singleton, director of global e-business at Raytheon.



PHOTOGRAPH BY FURNALD/GRAY

# MEASURING YOUR ONLINE PROFITABILITY

CIOs need reliable yardsticks to get bottom-line results online. Here are proven ways of estimating your ROI

What comes to mind when you hear the word *e-business*? Speed? Intuition? Daring? Seat-of-the-pants? ¶ How about metrics? Bottom line? ROI? Value? ¶ For all the attention that's been paid to the first set of words, you don't hear much about the second. In fact, few Fortune 500 retailers and manufacturers that are steeped in the thrill of the Internet are willing to talk about measuring the real value of their e-business ventures.

BY KATHLEEN MELYMUXXA

"Many companies seem to be just doing e-business and not measuring at all," says Jim Highsmith, director of the e-project management advisory service at Cutter Consortium in Arlington, Mass.

Deere & Co. estimated that a Web-based system could save the company tens of millions of dollars. Only then did it buy the software.

"We worry about people just throwing up their hands and saying, 'We can't measure this, and anyway, we just have to do it,'" says Tom Bugnitz, managing director of the E-Business Forum and president of The Beta Group, a St. Louis consulting firm.

But metrics are crucial. "If you can't describe something in business numerically, you're not doing your job properly," says Eric Singleton, director of global e-business at Raytheon Co. in Lexington, Mass. (see story, page 22). "How can you communicate success, failure or the gaps that need to be closed?"

Part of the problem may be that people feel overwhelmed by the abstractness — the "virtualness" — of e-business as well as by the breadth of applications, but it's not really that difficult if you think less about the *e* and more about the *business*, says Bugnitz. "People put e-business into one big block of stuff, and, really, there are a lot of different blocks," he says. "How you're going to measure depends on where you're doing this."

At Deere & Co. in Moline, Ill., for example, Jim Harl looked at a bunch of e-business metrics to establish the value of an e-business supply-chain project before Deere committed to it. "Everybody gets excited about doing e-business, but if you get caught up in it, you may put in some neat, great technology that doesn't touch

your bottom line," says Harl, Deere's manager of e-business for supply management. "Don't lose sight of the fact that it's a tool in the context of a larger business plan."

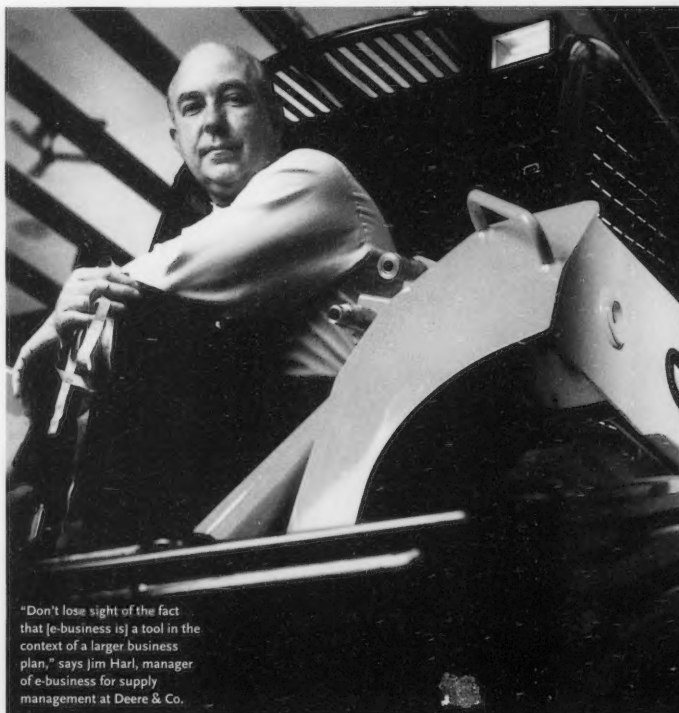
Deere spends \$1.5 billion annually

that expense, and he felt that the Internet might be the tool to drive those procurement costs down.

He started by measuring the existing indirect materials procurement process.

"We looked at everything you do — all the people, all the time on computers, putting [the purchase order] in an envelope — we mapped that out in excruciating detail," he says. Then he determined which steps would go away with an Internet system and how that translated into driving down cycle time and costs.

The company estimated that a Web-



"Don't lose sight of the fact that [e-business is] a tool in the context of a larger business plan," says Jim Harl, manager of e-business for supply management at Deere & Co.





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## THE BALANCED E-SCORECARD

Measuring everything from customer loyalty to infrastructure

**E**RIC SINGLETON LEARNED THE METRICS MANTRA WHILE STEEPED IN THE METRICS-centric Six Sigma quality program at AlliedSignal Inc. Now, as director of global e-business at Raytheon Co., he's managing the performance of all the company's e-businesses using a balanced-scorecard approach. Here's what it measures:

- Innovation and flexibility: Average time from concept to start; speed to match a rival's site; speed at which the competition will match your site; time between relaunches.
- Customer loyalty: Percentage who return within a year; time between visits; duration of visit; conversion rate; percentage who give personal information.
- Transactional excellence: Unique visitors each month; online sales abandoned; percentage of orders correct; time to respond to a customer; percentage of orders filled on time.
- Customer information: Percentage of e-mail addresses collected out of all traffic.
- Infrastructure reliability: Time to load a page; network uptime and scalability.
- Supply-chain excellence: Inventory levels; inventory turns; order confirmation time; percentage of products built to order.



- Valuation and financial performance: Return on invested capital; market capitalization migration (the changing value of the overall business).
- Digital quotient: For complementary e-business channels, percentage of total revenue generated online.

At Raytheon, these metrics are reported up the line regularly to Singleton, who reports monthly to the chairman on the state of every e-business. "The purpose is to manage the business, drive decisions on whether to keep the business, add resources in areas where there's a gap and figure out how to capture successes and apply them to other e-businesses," he says.

"It works for Raytheon; I don't see why it can't work for everyone."

— Kathleen Melymuka

based system could save tens of millions of dollars. Only then did Deere purchase Ariba Buyer software, which it plans to implement with a select group of indirect material suppliers to execute that part of the supply chain more efficiently. "If it's done right, it should reduce the suppliers' costs, too," Harl says.

The preproject metrics proved to Harl that there was business value in the Internet tool he envisioned. "It's not e-commerce for its own sake," he says. "It's, How do I use these tools to bring greater value to our supply chain?"

As the project moves forward, Deere will see whether expected savings materialize, Harl says, "and if not, why not."

Sheila Beauchesne is using e-business metrics to fine-tune an existing e-commerce retail site. "No two ways about it: We are in the e-business world to make a profit," says the CIO at Martha Stewart Living Omnimedia Inc. in New York. "Profit drives the decisions we make."

And you can't see the profits without metrics, she says. "So many dot-com businesses have gone under because they're focused on the top line and not the bottom line," she explains. "You've got to have a plan for becoming profitable, and you've got to base it on metrics."

Beauchesne says e-business metrics are the same as traditional IT metrics in some ways. "The bottom line is still what matters," she says. That means not just getting customers to the site but also completing a transaction and getting the product to their doorsteps on time and cost effectively.

But e-business metrics have to track user behavior, not just results, and that's different from traditional IT metrics. "We have to look at where customers are coming from, what's driving them to hit the Buy button, which content is compelling them, why they abandon the

shopping transaction," she says. "User behavior is a lot more critical and difficult to track. So coming up with metrics is an evolving science."

The Martha Stewart site includes information on how to make decorative projects, and the content for each project is directly linked to a shopping area where users can buy the specific materials they need. Every link, from content to an e-commerce opportunity, is a unique, trackable item, Beauchesne explains.

Among the metrics the company is attempting to track are what drives traffic and sales, what converts users to buyers and what affects dollars per order. Meanwhile, on the cost end, Martha Stewart tracks Web production, imaging and operations expenses with a view toward developing efficient, repeatable processes at the lowest possible cost. "We're not perfect yet, but we're getting better at it," Beauchesne says.

She says these metrics are helping to hone the profitability and operational excellence of the site. "We've learned that you have to provide an individual experience," tailoring the site for both the novice and the Web-savvy shopper, she says. "We've also learned that you've got



"No two ways about it: We are in the e-business world to make a profit," says Sheila Beauchesne, CIO at Martha Stewart Living Omnimedia.

after the fact," says Farhat, corporate e-business leader at the company's Fairfield, Conn., headquarters.

For example, online sales is a measure of what you've been doing. "Indicators are things along the way that point toward the outcome," Farhat says. Are you attracting users, interacting with users, transacting with users, retaining users, grow-

Farhat says measures must be simple, meaningful, quantifiable and auditable. For example, key measures for business-to-business projects in which GE is the buyer include the effort it takes to consummate a purchase and the number of suppliers that qualify to bid for the business, assuming that more suppliers bidding means lower costs for GE as a buyer.

When GE is the seller, it measures customer satisfaction by looking at whether customers are returning, designing their own Web pages to interact better with GE, asking for more applications and buying more from GE as they grow.

These basic metrics are essentially the same for any GE business, Farhat says, and e-business projects have to prove their value like all the rest. "They just compete for resources like any other project," he explains, "because if it's not going to empower the business strategically and tactically, they shouldn't be doing it." ROI

The bottom line matters, but e-business metrics have to track user behavior, not just results, and that's different from traditional IT metrics.

to have a really clean shopping experience. If anything confuses the user and causes him to not finish, you've lost that customer."

At General Electric Co., Camille Farhat makes a distinction between measures and indicators and says each is essential to success. "Measures are the consequences of things you do; you look at them

ing with users? Those answers indicate how you're doing.

The key to a good outcome is to continually keep your eye on the indicators and intervene when they don't look favorable, he says. For example, when customers log on but don't buy, follow up and find out why. "Then you can fix whatever is wrong with the experience," he says.





As CIOs bite off more revenue responsibilities, CEOs are less interested in their technical chops BY STEVE ULFELDER

# NEW TOP DOGS OF HIGH TECH?

ASK KIRK KAPLAN WHAT SCARES HIM TO DEATH ABOUT BEING A NEWLY MINTED TECHNOLOGY chief, and he says, without hesitation, "Two letters: NT."

That particular phobia is hardly unique, but Kaplan's fear packs a little extra punch: Having spent 17 years as a copywriter and then creative director at Turkel Schwartz & Partners, Kaplan — spurred by a fascination with the Internet's possibilities — recently hauled off and volunteered to become the Miami advertising agency's head IT honcho. (Kaplan's title is chief knowledge officer, and he jokingly says he's mulling a title change to chief alchemist. But make no mistake: He functions as a CIO.)

ILLUSTRATIONS BY NICK DEWAR

Like many ad agencies, Turkel Schwartz was a Macintosh-or-die shop. But the writing's on the wall: Affiliates and business partners are demanding files that can at least coexist with Windows NT, and Kaplan needs to do something. Fast. "I got thrown in the rats' nest," he says.

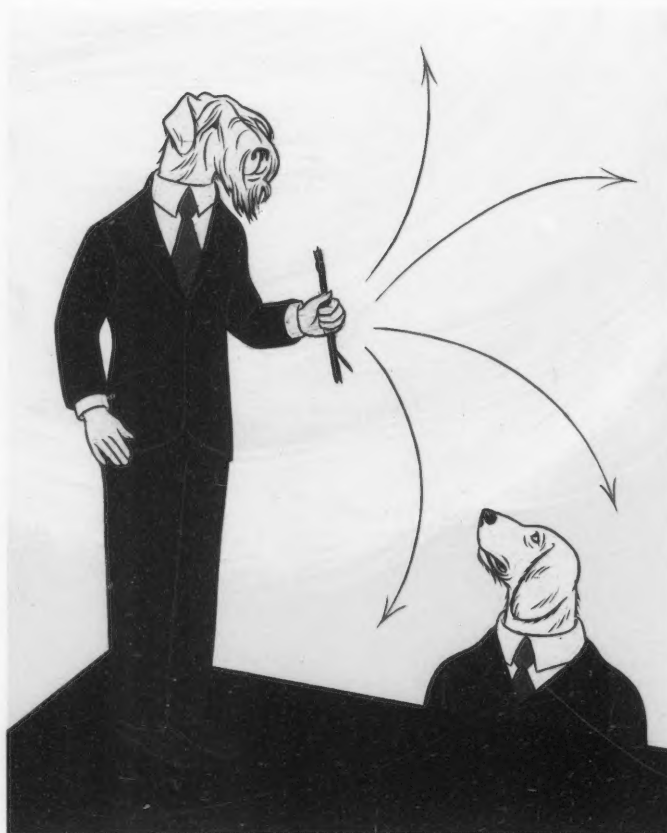
### THE NEW BREED

IS INFORMATION TOO VALUABLE TO trust to information technologists? As IT becomes more and more strategic, maybe an MBA is more useful than a computer science degree. Maybe time spent overseeing advertising layouts is better than time devoted to reviewing database schema. Increasingly, organizations are installing technology bosses who have made their mark on the business or marketing side. Although the overwhelming majority of CIOs still rise from the IT ranks, it's becoming increasingly clear that it now takes more than hardware and software chops to make a CIO.

While many experts applaud the trend toward a more well-rounded CIO who brings business credentials to the table, they also warn that those technology chops still count for a lot. Any vendor can waltz in the door and promise a magic solution to all the enterprise's problems. CIOs need the ability to apply the sniff test to these promises and make critical, expensive choices.

Or do they? Experts and CIOs agree that today, what's needed is a technology team made up of people who can cover one another's weaknesses and complement one another. It seems that CIOs who aren't former code jockeys can thrive if they have a tech-savvy lieutenant (or, more likely, lieutenants) whose judgment they trust.

Just as it's hard to imagine a chief financial officer who can't read a balance sheet, it's tough to picture a CIO who lacks at least



boilerplate knowledge of IT. But perhaps the role has broadened to the point where technical understanding isn't the primary criterion for landing the position.

### OLD DOGS

LINDA A. ROSSETTI IS CEO OF eMAVEN INC., A BOSTON-BASED company that consults with large businesses about their online strategies. Until recently, Rossetti says, the attitude of IT departments was, "If you ask me the right question, I'll tell you the right answer."

Cherri M. Musser, CIO at eGM, a division of Detroit-based General Motors Corp., agrees. "A lot of times, businesspeople

# DISSATISFIED

with the bang for their IT investment buck, some CEOs are giving CIOs with different strengths a try.

tell you the symptoms," Musser says. "If you don't understand the underlying business needs, you may go off and code or buy a packaged application" that addresses the reported symptoms but fails to solve the larger business problem.

That won't cut it in an e-business world, experts say. Today's CIO must anticipate the question, figure out what the business executives really want to know (for instance, when the marketing department pleads for more clickstream data, what they really want is more information on customers and prospects — and finding this information may have little to do with the clickstream) and even help answer questions the rest of the board would have never raised.

According to Chet Bloom, an account manager at New York-based recruiter Carlyle Consulting Services, most technologists lack some skills that are crucial for today's corporate officer: the ability to negotiate, communicate and delegate. "[Techies] are intellectually far superior," Bloom says. "But you get them on the phone, and they're socially inept."

It's clear that over the past five years, the IT department in general and the CIO in particular have made great inroads in the corporate mind-share department. It wasn't so long ago that many business executives questioned the very need for a CIO — as long as the company was making payroll and churning out the needed reports, the grumble went, what was the big deal? Why did that quiet guy from the data processing department need to be a chief all of a sudden?

But then came electronic data interchange (EDI), which boosted the value and prestige of information — even to those who had remained blissfully unaware of the shifts brought about by client/server computing. Hot on the heels of EDI was the World Wide Web, which demanded an online presence of at least some sort. The floodgates were opened, and a tumble of IT-related issues — customer relationship management initiatives, Y2k, online exchanges that offer opportunities to reduce supply-chain costs, a drive by many businesses to run the entire enterprise off a single database — made it clear that having a board-level executive in charge of technology was mandatory.

For obvious reasons, the overwhelming majority of CIOs have risen through the IT ranks. One of the most important

chores of CIOs in their brief history thus far has been understanding and explaining technology to other executives, especially the CEO.

But that's changing. "How does it work?" is an obsolete question. Now and in the future, "Can it get us where we need to be?" is much more important. And this is where many CIOs fall down.

"A lot of CEOs over the past 15 years have been frustrated by what they're getting out of IT," says Dave Caruso, an analyst at Boston-based AMR Research Inc. "They understand the value of technology. They've spent tens of millions, or even hundreds of millions, on IT." And they're not satisfied with where the investment has gotten them. Why? The classic IT guys, Caruso says, "focus on the technology and . . . have difficulty translating the investment into language execs can understand."

CIO Kaplan calls this "the accidental arrogance of the [IT] practitioners — they know how the stuff works but don't have a clue how someone's going to use it."

## FIRST ACT

THE SHIFT AWAY FROM HARD-CORE TECHNOLOGISTS IN THE CIO's office is in its early stages. EMaven works with dozens of Fortune 500 companies in different industries, and Rossetti says she can't think of a single non-IT CIO. Caruso agrees that at this stage, it's rare to see a former business or marketing executive stamped with the actual CIO title. Tim Peacock, vice president of development at Woburn, Mass.-based Intranets.com, a services firm for small businesses, has an extensive technology background and says that as far as he knows, almost all his peers do, too. "I haven't bumped into a CIO without an IT background," Peacock says.

Early though it may be, Caruso insists, "Non-IT execs getting into IT management is a definite trend." He adds that the need to do business online is a major driver. "AMR estimates that over 50% of the Fortune 500 have e-business VPs who get pulled right out of [a line of business]," he says, adding that it's only a matter of time before more "e-business execs get pulled from the ranks to be CIO."

Carlyle Consulting's Bloom says the top CIO candidate for a "major client" (which he declines to name) is a business analyst.

The candidate's experience is in finance, not technology. But he's attractive, Bloom says, because he brings sales and marketing experience to the table and knows networking — with people, that is. Companies are "looking for people with good communication skills," he says. "They can train them technically."

Rossetti says regardless of what goes on a technology officer's résumé, "there's a changing role for the CIO. Historically, they've been a leader in an internal customer service organization. There was nothing about partnerships." Now there most emphatically is.

One CIO who lacks an IT pedigree agrees that while the tech officer's role is changing, traditional CIOs (CIO Classic?) are

keeping up. Mark Millan, chief technical officer at WorldAG.net, an agriculture exchange portal set to launch this spring and based in Sonoma County, Calif., has a background in publishing and marketing.

"In the past," Millan says, when he wore the marketer's hat, "I worked with CIOs. They were historically very linear. They weren't always looking at the big picture. But that's changed in the past two or three years."

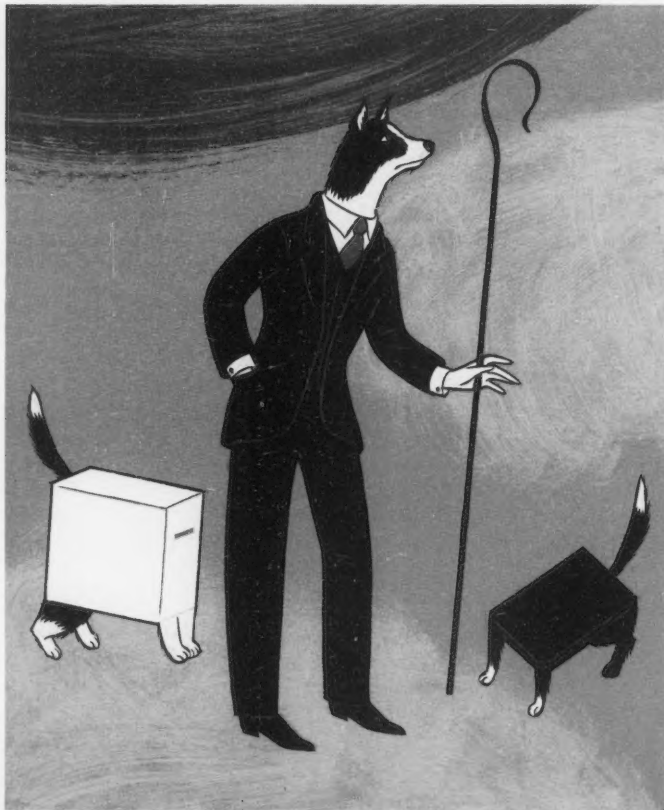
## NEW TRICKS

WITH TECHNOLOGY MORE IMPORTANT THAN EVER, AND WITH SO many interdependent decisions facing the IT department —

infrastructure, packaged applications, systems integrators (and other potential partners), outsourcing and application service providers, to name a few — why would organizations consider naming a CIO who lacks heavy technology knowledge?

As discussed earlier, many CEOs are dissatisfied with the bang they've received for their IT investment buck. Some are willing to take a chance, to try a CIO who brings different strengths to the table. And the most sought-after strength, by far, is the ability to view IT not as an end, but as a means to accomplish business goals. Remember Rossetti's line about old-line CIOs: "Ask me the right question, and I'll tell you the right answer." The mantra for New Age CIOs, meanwhile, is, "Tell me where the organization needs to go; I will use IT to help us get there."

Millan says IT "isn't just about automating processes, it's about serving the customer in a 360-degree manner." To many IT veterans, that may sound like typical marketing fluff, the vague pie-in-the-sky stuff that makes hard-nosed programmers roll their eyes





# NON-IT CIOs, experts worry, are more likely to be bamboozled by vendors' and systems integrators' sales pitches.

in team meetings — which is exactly why Millan is a chief technology officer.

Creating a technology landscape that can serve customers in a 360-degree manner is an example of what CEOs seek from today's CIOs. With his marketing background, Millan says, he's "really in business to serve other people. That's fundamental for me. I'm always thinking, if I'm a customer, what do I want?"

Musser has a well-informed perspective on the challenge for New Age CIOs; she boasts extensive experience in both IT and business. And in addition to her CIO title, she is the division's process information officer of supply chain. "CIOs have always needed a good sense of business," she says. "After 10 years [working at Texas Instruments Inc.], I went back and got an MBA because sometimes [without business experience], I couldn't ask, 'What are we really doing here?' " IT managers, Musser says, can develop tunnel vision: "You're doing what you're told. You can get enamored with the technology."

Like Musser, Don McNamee might be considered a crossover CIO. As top technology executive at Lexmark International Inc., a Lexington, Ky.-based printer manufacturer, McNamee has a straightforward IT background but has thrived as a business-focused CIO. Why? "I found out the hard way," McNamee says. "I watched my bosses throughout my career. The ones who succeeded were seen [by other executives] as businesspeople. The ones who failed were considered the techies behind the black box."

These observations taught McNamee what he calls a "simple formula: You find out what are the business priorities and those metrics that the business values, then focus your IT priorities on that. Establish a dialogue with the major business players in the company; get them to see IT as a partner." And when talking with fellow executives, he says, "my conversation is rarely sprinkled with techie stuff. I never talk MIPS and clock times — you talk about how to add value to the business."

## THE BIG DRAWBACK

WE KNOW THAT NOT EVERYONE APPROVES OF NON-IT CIOs. "Anyone with an MBA can't just run an IT department," says Intranets.com's Peacock. "Any manager needs a functional under-

standing of what people [in his department] are doing, and in IT, the ante [for developing that understanding] is pretty high."

Musser, McNamee, Peacock and other business-savvy CIOs with traditional technology backgrounds have a secret weapon: After communicating with fellow executives on a business level, they can fall back on their deep IT knowledge when it's time to make the magic happen. The same can't be said for CIOs who are pulled from the marketing department or a line of business, and that is their glaring weakness. To their credit, they freely acknowledge this and take steps to make up for it — usually by surrounding themselves with IT experts.

"I have the mountain of my own ignorance to scale," Turkel Schwartz's Kaplan says. "I'll be outengineered all day long."

Experts' biggest worry about non-IT CIOs is that they're more likely to be bamboozled by vendors' and systems integrators' sales pitches. "Somebody has to be able to say, 'No, we can't do that,' even though a vendor just described the [allegedly] perfect solution," Rossetti says.

McNamee agrees, saying vendors "will come to you with the great solution in the sky, which will solve everything including toothaches. If you don't have your [service-level agreements] and metrics in place, you will get burned." But the same issues face even the techiest CIOs, he adds, in an increasingly fragmented IT world in which it's impossible to be an expert on everything.

CIOs who lack a technical background must take extra pains to have lieutenants they can lean on. "I have about three people who translate for me," says WorldAG.net's Millan. "I rely on members of my technical team. They just plain know a lot more than I do." Kaplan, too, says he relies on specialists for advice and is "trying like hell to hire a right-hand man" with a thorough understanding of a broad range of technologies.

Right now, corporations appear to be willing to overlook a lack of technology know-how as they seek to weave IT closer to the fabric of the business. IT professionals with an eye on the CIO's office might think hard about going after an MBA or some serious business experience; multitasking executives will soon be much sought after. "The real trick," Peacock says, "is to find people with IT backgrounds and business backgrounds." ROI

More than half of all sales force automation initiatives bomb.

The fault lies not with the tools but with management's inability to tailor them for this unique set of users

# Failing to Construct the Seller

BY SEAN T. KELLY

ARE YOU INTERESTED IN TURNING YOUR COMPANY'S SALES FORCE INTO A DYNAMIC BUT unified selling machine that's as coordinated and assertive as a colony of amped-up army ants? Consider these facts: ■ 1. There's no shortage of companies that want to help you. Analysts estimate that sales force automation now represents a \$3 billion to \$6 billion industry with products from more than 500 companies, many of which have long histories designing sales processes, customer relationship management, Web contact management and other sales-oriented tools and services. These companies include Front Range Solutions Inc., Oracle Corp., Saratoga Systems, Siebel Systems Inc. and Vantive Corp. ■ 2. The results can make you a hero. Successful integration of sales force automation technologies has reportedly helped companies outsell their (non-sales-force-automation) rivals by as much as 50%, cut sales cycles in half and work more effectively across traditional enterprise boundaries, all while reducing sales costs. ■ 3. You're likely to (a) fail, (b) lose millions of your company's dollars in the process and (c) need a new job. ■ 4. Read No. 3 again. ■ 5. There is good news: Failure is avoidable.

But failure is avoidable only if you understand why it's so common.

AND JOHN A. BARRY

PHOTOGRAPH BY JANA LEÓN



## Looking Under a Rock for an Elephant

CONSERVATIVE ESTIMATES SUGGEST THAT AT LEAST HALF OF ALL sales force automation implementations have either failed or inhibited the sales force's performance in some way. Some estimates indicate, however, that as many as 70% to 75% of companies that undertake a sales force automation implementation won't see the results they hope to realize.

Despite the availability of high-quality software, companies all too frequently lack the commitment, organization and follow-through to see a sales force automation effort through to measurable success. Instead, millions of dollars' worth of new hardware and software tools often go unused.

Erin Kinikin, an analyst at Cambridge, Mass.-based Giga Information Group Inc., claims that most of the companies she works with are "on their second or third [sales force automation] vendor — and looking for another one. [This] spending in Fortune 5,000 companies [and in opportunity-driven industries] runs in the millions of dollars per company, without showing clear benefits."

So what's wrong with sales force automation technology? Well, nothing, really. And there's the rub: Companies all too often blame such tools for sales performance inadequacy, when they should be looking elsewhere for the problem. "The tools, as good as they currently are, are often retrofitted into a poor sales process," says Scott Sims, a partner at the Chicago office of Arthur Andersen LLP's channel and customer solutions business.

Kinikin agrees. "It's increasingly difficult to blame technology for project failure," she says. "Companies have to start looking in the mirror and addressing the fundamental organizational and people issues that make sales force automation [or optimization] valuable."

## Botching the Deal

IN A TECHNOLOGY INDUSTRY RULED BY STANDARDS, SALES FORCE automation defies certain laws of operation. While many companies can slap accounting and manufacturing software into existing environments, that's not so easy to do with sales force automation. Each company operates its sales efforts differently, so prepackaged software can't solve specific problems. That forces companies to evaluate individual sales processes, admit to breakdowns and then — and only then — customize sales force automation tools to meet their unique process and people needs.

Jim Dickie's Boulder, Colo.-based company, Insight Technology Group (ITG), spent two years reviewing hundreds of sales force automation initiatives for its 1999 research report "Towards Sales 2000 — Reengineering the Way We Sell." It identified the pitfalls that commonly prevent companies from yielding significant sales process improvements. All of them centered on process, commitment levels and communication problems. For example, ITG found that companies frequently do the following:

- Concurrently develop sales force automation components in separate departments, without parameters. The result: incompatible systems.

Dickie points to an East Coast-based Fortune 500 manufacturer that compiled a complex set of tools that included Mehta Corp.'s Markettrieve for sales force automation and marketing, telemarketing software from Brock Control Systems Inc., Symantec Corp.'s ACT for field sales, Corel Corp.'s Paradox for customer relationship management, Oracle Financials for finance and

accounting and an internally developed system for product support. Each product addresses a specific need well, he says, but when combined, they may create more confusion than efficiency for a sales force.

- Cut corners by applying old

hardware and software to new problems, which leads to poor performance, sales force frustration and rejection of new systems.

- Get spooked by per-user costs, which often reach \$15,000 to \$17,000 for the entire life cycle, even if those costs are recovered in a matter of months in addition to exponential gains.

- Undercommit to sales force automation projects by using Band-Aid fixes that only further complicate existing processes, rather than generating new, improved methods.

- Pursue sales force automation with a "part-time" attitude. When IT is encouraged to do some user-interface work in its spare time, when the marketing department is solicited only for occasional feedback and when salespeople are rarely invited to input meetings, unfinished projects are usually the result.

- Never get complete buy-in from senior executives, which results in difficulty communicating sales force automation goals across functional areas, managing internal problems (like politics), resolving problems with conflicting business goals and so on.

Although each company and its structure differs, the point is that companies should, but frequently don't, do the necessary internal evaluation work required to successfully match their individual sales process rules with sales force automation tools.

## Companies blame sales force automation tools for sales performance inadequacy, when they should be looking elsewhere for the problem.



## Stick With It or Get Stuck With It

At the first sign of trouble, many companies bag their sales systems

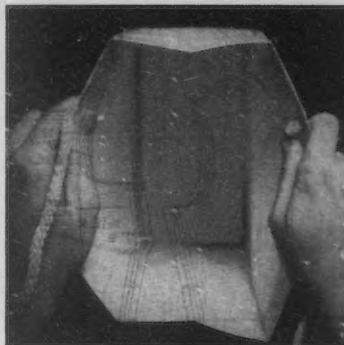
**S**URPRISINGLY, EVEN AFTER PROCESS, TECHNOLOGY, AND EXECUTIVE and sales staff buy-in problems are resolved, sales force automation initiatives still have a significant chance of failure.

**Why?** Experts and practitioners believe companies either give up on automation too early if they don't see immediate results or simply allow these projects to fade into the background once they're in place.

"We frequently see companies give up on a new[sales force automation] implementation if they don't meet their sales objectives by the close of the next quarter," says Scott Sims, a partner at Arthur Andersen's channel and customer solutions business. "They don't realize that [this technology] isn't a short-term shot; it may take two years to see the real bottom-line value of a new system."

If companies don't give up entirely on a new system, they often make the mistake of giving up on its maintenance and assume that the money's spent and what's done is done. ITG's Jim Dickie, whose research confirms that companies far too often back off at the first sign of trouble, says sales force automation initiatives get ugly early because of variables such as a lack of formal training for new employees, inadequate system administration and support, and a lack of continual system upgrades and enhancements.

"Sales re-engineering is not an event; it's an ongoing process," says Dickie. "Failing to plan and budget for additional functionality to [sales force automation] programs or upgrading hardware or communications capabilities will result in [these] systems becoming obsolete in just a few years."



— Sean T. Kelly and John A. Barry

### Power to the (Sales) People

JUST AS COMPANIES CAN FOCUS TOO HEAVILY ON TECHNOLOGY and too little on processes, they can also focus too heavily on both of those aspects and yet leave their salespeople out of the equation. This may sound silly, since improving a sales force represents the overall goal of sales force automation tools. But, according to Arthur Andersen's Sims, companies that get overly infatuated with designing sales process and automation systems forget to ask one of the most obvious questions: "Will our salespeople use it?"

"If you're a salesperson, your intent is to make your wallet fatter," says Sims. "No matter how simple or fancy a new system may be, salespeople will still ask, 'Will it help me sell more?'"

According to Dickie, every salesperson needs to answer that question with a resounding yes.

"As soon as [a company] lets a single person get away with not using the system because it's too hard, they haven't had time to get used to using it or they are personally more productive doing something else, the foundation for the project will start to crumble," he says.

When company executives include sales staff in sales force

automation interaction design processes (so the system is easy to use for both IT and sales staff), thoroughly explain the benefits and remove the common fear that the system is really just a "Big Brother" way to monitor a sales force's every move, salespeople will be more likely to confront change and adopt new routines.

But Kinikin points out that sales force automation frequently requires "too much input for too few benefits." Clearly, a firm must balance how much time its sales force spends on the design and planning process with the amount of time it spends performing its main tasks: selling products and interacting with customers.

Surprisingly, according to Sims, some organizations even neglect to do this while implementing, and even upon completion of, a new sales force automation system.

"We've seen companies assume — based on a good vendor demo — that new [sales force automation] technology will automate the entire process, including customer communications. But some things just cannot, nor will ever be, automated," says Sims. "In the end, no matter how sophisticated the [sales] technology a company uses, it's still the handshake that defines the customer relationship."

ROI

**Dot-coms dropped the ball, but the lessons they taught  
are keeping e-business on a roll. In fact,  
a fresh focus on technology's ability to drive new revenue  
is putting bounce in the industry**

**D**OES THE DEMISE OF SO MANY DOT-COMS SPELL THE END OF E-BUSINESS? IN A WORD, no. In fact, we remain steadfastly on the path of the greatest business transformation since the Industrial Revolution, and, ultimately, we'll thank the failed dot-coms for serving as the catalyst.

But first, let's agree on some terms.

A dot-com is a venture capital-backed start-up that uses Internet technology to dethrone traditional players in an industry. Think of consumer e-commerce titan Amazon.com Inc.'s challenge to venerable booksellers like New York-based Barnes and Noble Inc. And let's not forget business-to-business dot-coms, like San Jose-based Neoforma.com Inc. This upstart received more than \$80 million in financing to create an Internet marketplace to take on the \$140 billion hospital supply industry.

E-business, in contrast, goes well beyond applying Internet technology to existing retail, distribution or other business models. Instead, it requires broad-scale asset redeployment and process changes, which ultimately serve as the basis for a company's competitive advantage in the Digital Economy.

BY LINDA A. ROSSETTI

San Jose-based Cisco Systems Inc.'s use of the Web to manage its supply chain is a prime example. The company reported that its e-business model more than halved cycle times, plus saved another \$170 million in material and labor costs.

Similarly, Charles Schwab & Co. in San Francisco has slashed transaction costs by as much as 80% by shifting brokerage transactions from traditional channels like retail and phone centers to the Internet.

Most pure dot-coms, in contrast, haven't fared nearly as well. Last year alone, 140 dot-coms failed, according to San Francisco-based Iconocast Inc., which tracks Internet start-ups. Yet there are several significant lessons that traditional companies looking to launch or grow e-business initiatives can learn from these fumbles.

PHOTOGRAPHS BY VITO ALUIA



THE

BIG  
BOUNCE

## Lesson No. 1:

It's all about business. Always has been, always will be.

THERE'S A SCENE IN THE MOVIE *TITANIC* WHEN THE SHIP'S CAPTAIN asks about the stricken ocean liner's likely fate. The ship's builder answers that there is nothing to be done: It will sink. "It is a mathematical certainty."

Early on, we used similar "mathematical certainty" methods to focus Fortune 1,000 executives on the business fundamentals required to succeed in the Digital Economy.

To illustrate, consider this hypothetical case: A Web retail start-up, Shirt.com, seeks to generate \$300,000 in sales in its first year. If the company realized average transaction value of \$30, it would need to close 10,000 transactions to generate its target \$300,000 in revenue. These 10,000 transactions would be a function of the Web retailer's conversion rate — the percentage of visitors who actually purchase something. In the past 24 months, e-commerce sites experienced an average conversion rate of 1%. That means Shirt.com would need to attract 1 million visitors to reach its first-year revenue goal.

Let's further assume that Shirt.com relied solely on online advertising, like banner ads, which have a 1% to 2% click-through rate, to drive traffic to its site. With that click-through performance, the company would need to purchase between 50 million and 100 million ads to net its 1 million visitors. At an average cost of about 3 cents per banner ad, it could cost as much as \$3 million to generate modest sales of \$300,000. Layered on top of that would be another \$3 million in expenses for things like site development, maintenance and the cost of goods sold. The example is oversimplified, but you get the point.

Don't be dismayed. Business fundamentals aren't meant to deter valuable investment in new digital channels, like the Internet or wireless commerce. Rather, fundamentals play a pivotal role in preparing companies for leadership. A focus on business fundamentals drives an integrated results-oriented approach critical to leadership in an e-business arena.



## Lesson No. 2:

It's also about relationships, *not* transactions.

FORGET TECHNOLOGY'S GEE-WHIZ FACTOR AND FOCUS INSTEAD on its role in advancing relationships, from customers, employees and suppliers to business partners and shareholders.

Consider GE Aircraft Engines (GEAE), a division of Fairfield, Conn.-based General Electric Co. that launched a customer Web site in January 2000. This private, password-protected site, also known as an extranet, can be accessed by GEAE's customers. Using the extranet, big customers like Atlanta-based Delta Air Lines Inc. and Houston-based Continental Airlines Inc. can electronically place orders for more than 250,000 parts, check inventory, pay bills and even view pictures of ongoing repairs and maintenance.

Sure, GEAE's customers can buy parts online — recall the "transaction mantra" of the dot-coms. But even more important, every time a customer logs on to check inventory or review invoices, GEAE gains additional business value measured in reduced cycle time for critical parts and lower costs to service customer orders.

GEAE also increasingly tightens its relationships with its customers. For example, data available on Delta's private Web page at GEAE enables Delta executives to make informed decisions about how and where to stock aircraft replacement parts to minimize flight cancellations resulting from maintenance problems. Major U.S. airlines typically stock between 150,000 and 300,000 aircraft parts, which cost \$800 million to \$1.5 billion annually to warehouse. Under GEAE's e-business model, Delta's ability to maintain jet engines in a cost-effective manner will become more and more reliant on the information, services and knowledge provided to the airline via its supplier.



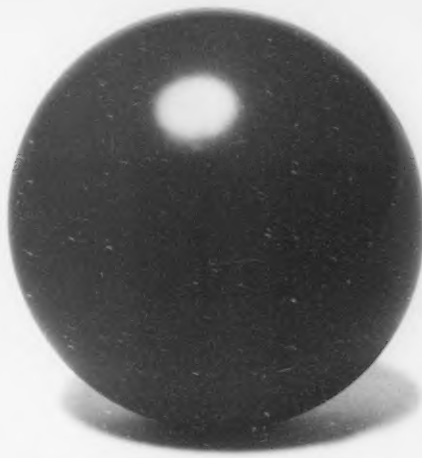
At GEAE, the extranet brought in more than 10% of the company's \$10.7 billion in 2000 revenue. In addition, GEAE expects that cost savings will tally \$100 million. Perhaps even more meaningful is that, thanks to new selling tools and techniques built into the Web site, GEAE expects to bring in an incremental \$1 in revenue for every \$4 of customer transactions it converts from the physical world to the Web site.

The bottom line: E-business value is created when companies continue to advance valuable relationships while converting all or some of those relationship steps into a digital format.

### Lesson No. 3: Real business value goes beyond cost savings.

THERE IS NO TURNING BACK FOR COMPANIES THAT HAVE ALREADY reaped the financial benefits of e-business. Charles Schwab, for example, cut costs by more than \$400 million in 1999 — approximately 10% of its revenue — by shifting physical-world transactions to online.

The next step for companies and their customers is to change the terms of competition. Self-service applications are a prime example. If you're selling a potential customer on your manufacturing capabilities, don't be surprised when the customer's evaluation of your capabilities stretches to your company's Web-based ordering, tracking and customer service capabilities. The reason is that if you haven't invested in these applications, your customers' cost of doing business with your company increases.



### Lesson No. 4: Today's customer data is tomorrow's competitive corporate asset.

REALIZING FINANCIAL RETURN ON INVESTMENT ALONE DOESN'T guarantee e-business success. Dot-coms have also taught us the extraordinary value of new assets created in a Digital Economy.

A prime example is Seattle-based Amazon.com's customer database, which the dot-com wisely leverages to drive new revenue by presenting return customers with personalized suggestions of books and music to buy. The assets created by e-business, be they a customer database like Amazon's or the engine performance database developed and shared within GEAE's extranet, are the new jewels of the E-Business Age. IT is at the core of these new assets, which is why technology decisions made today will position the leaders of tomorrow.

E-business isn't just another flavor-of-the-month craze, like total quality management. Despite the battle wounds inflicted by these well-intentioned business fads, we can safely say e-business represents the most significant change in more than a century. Remember Henry Ford and his production line? When, since then, have we seen 10% shaved from the cost structure of a Fortune 50 corporation like Charles Schwab?

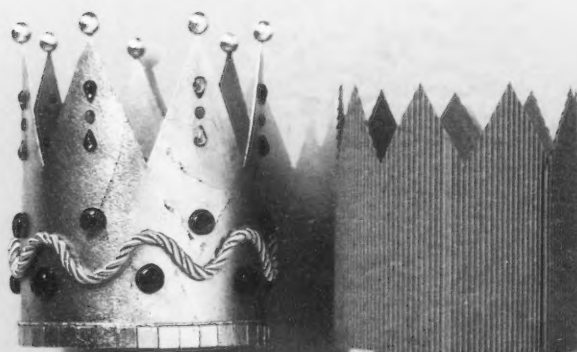
Ultimately, the dot-coms should be thanked. They made the world pay attention to the extraordinary business potential of a new communications technology. What remains to be seen is how well companies translate their early e-business lessons into greater cost savings and ongoing competitive advantage. **ROI**

**ROI ONLINE** For more lessons learned from dot-coms, click on "Autopsy of a Dot-com" at [www.computerworld.com/roi](http://www.computerworld.com/roi).



# The Kingdom of B2B

*Listen skeptically to e-commerce naysayers* BY MARK HALL



**W**HEN KING LOUIS XIV WAS LOOKING FOR A SENIOR adviser, he tested the leading candidate, Nicholas Fouquet, not for his knowledge but for his honesty. France's new ruler asked Fouquet to give him an assessment of the government's revenue and expenditures. Fouquet underreported the nation's income and overstated spending. Louis discovered the deception, which is why it's John-Baptiste Colbert who's remembered as a key contributor to the strategy behind the Sun King's reign.

The moral? Honesty is the best policy. Sure. But the real moral? Never undersell the basis for the future.

Fouquet wanted the same things as Louis and Colbert — glory and riches for France. But given a tight budget and an inexperienced king, he thought it prudent to go slowly. He was wrong.

Keep Fouquet in mind as your right-hand adviser gives you the bad news about business-to-business marketplaces. Despite the chatter (more than 1,000 were launched last year), these exchanges do very little, and what they do is incomplete.

Once you strike a deal on a B2B exchange, you must back out into multiple proprietary, intracorporate, paper-inspired systems to consummate the agreement. For example, a \$10 million order to an Asian manufacturer can't be insured or financed in a B2B exchange, something that

would be de rigueur in the real business world. That's beginning to change with the likes of The Hartford Financial Services Group Inc. and Marsh Inc. stepping gingerly into the market with integrated services. But exchanges remain yet another source for more FedEx packages and faxes.

In truth, a B2B exchange's immediate benefit is as an effective procurement tool, something along the lines of a Web-ready, industry-specific Thomas Register. A very good thing. But not a very big thing. Don't expect to use your B2B exchange strategy to turn your company around.

That said, when your trusted adviser is giving you the lowdown on your B2B situation, listen carefully. Is it Fouquet talking or Colbert? Is the advice notable only for dwelling on the shortfalls of B2B? Or is your adviser telling you that it's inevitable that your online B2B supply-chain operations will continue to get more intricate as you increasingly leverage the Internet? That as your B2B complexity rises, your company's future will eventually depend utterly on B2B complexities? And that the decisions you make now will set you on the right or wrong path? That's the advice you should be getting . . . or giving.

B2B procurement exchanges are only the first baby step. The Colberts of the world know this and will use exchanges to make business history. The Fouquets of the world will simply be history.

ROI

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# Leaders in the Rough

*How to identify people who can take the wheel* BY GUS TAI

**V**ENTURE CAPITALISTS CONSTANTLY HAGGLE about whether it's great management or a great market that makes or breaks an investment. That's like asking which is more important for survival: air or water. In the case of a young company, management and market opportunity are equally important for long-term success. But the biggest challenge is identifying great management.

There are nearly 10 times more start-ups funded today than three years ago, meaning many are led by entrepreneurs who don't have direct, relevant experience. As a result, the mechanisms for evaluating leaders — checking their track records and references — while still valuable, aren't always applicable. So to help assess leadership capabilities, here's a list of personal attributes essential for building lasting companies.

**INTEGRITY** It's virtually impossible to lead successfully without it. Leadership demands that ethics come without compromise.

While it's hard to measure integrity, it's easy to spot indicators of its absence. Red flags appear when CEOs evade tough questions or seem willing to morph into what they think you want them to be. I look for an unshakable resolve and a willingness to be open and direct. Times of crisis are often the best test.

James Burke's leadership at Johnson & Johnson during the Tylenol scare is an excellent example of ethics without compromise.

**HIGH EMOTIONAL IQ** Good CEOs fundamentally understand that people are the company's greatest asset. They truly listen. And they take the time to

regularly communicate to the team how the company is doing, where it's going and how they plan to get there. High emotional IQ goes a long way toward building a motivated and hard-working team. Sasa Radulovic, CEO of an early-stage company called TrueSpectra, has been able to build a strong team-based culture, thanks to his keen listening skills and ability to combine people's strengths.

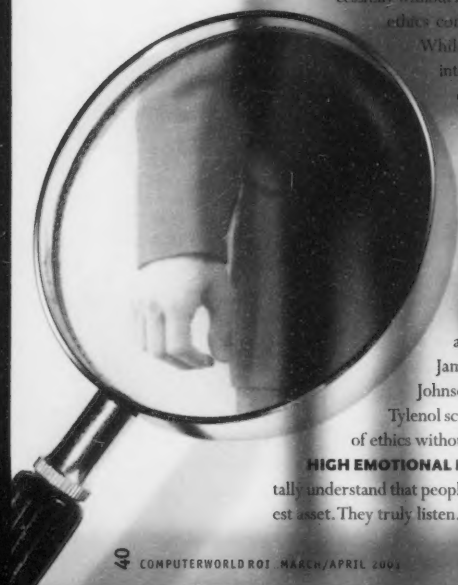
**POSITIVE OUTLOOK** Much can go wrong in a start-up, and often does. The most successful leaders have a natural positive outlook about the challenges. This attitude creates the energy necessary to overcome obstacles. CEOs who see the cup as half empty often create a downward spiral in difficult times. By contrast, Starbucks CEO Howard Schultz's positive outlook helped inspire those around him in the midst of challenging operational complexities and many doubters.

**DECISIVENESS** Without decisive leadership, companies can quickly become paralyzed. The vacuum created by indecision breeds internal politics and individual agendas. The decisive CEO faces tough choices head-on, weighing options, determining a course of action and moving forward with confidence. Clarity of thought and articulation of clear goals are early signs of a decisive leader. Think General Electric CEO Jack Welch.

**TALENT MAGNET** Strong leaders aren't afraid to surround themselves with exceptional people. When taking a chance on a new entrepreneur, evaluate whether he has recruited a first-rate team capable of building a sustainable business. Assessing the caliber of his advisers is another gauge of his ability to attract talent. Cisco CEO John Chambers is well-known for retaining the best and the brightest with each acquisition the company makes.

There's no shortage of innovative ideas and solid business plans. The scarcest resource is people. Entrepreneurs who possess these leadership qualities are far more likely to deliver success to the company, employees, customers and investors.

ROI





# Windows 2000 ADVANTAGE

The Web Magazine for IT Leaders Implementing Windows 2000 and Windows NT with Compaq Services and Solutions

## Online this week:

### POINT OF VIEW

Compaq Integration2000 delivers enterprise e-commerce solutions

Integrating enterprise applications recently got a boost with Compaq's Integration2000. The initiative helps solve the largest, most difficult business integration problems.  
[www.windows2000advantage.com/pov/12-11-00\\_integration.asp](http://www.windows2000advantage.com/pov/12-11-00_integration.asp)

### TECH EDGE

Windows 2000 enhances storage management, disaster recovery

Microsoft Windows 2000 features that fine-tune how information is stored, distributed, backed up and recovered in an enterprise-class data center are making life easier.  
[www.windows2000advantage.com/tech\\_edge/02-05-01\\_disk\\_disaster.asp](http://www.windows2000advantage.com/tech_edge/02-05-01_disk_disaster.asp)

### Q & A

Aberdeen Group analyst says Windows 2000 ready for reliability prime time

Tom Manter, at the Aberdeen Group, finds that enterprise computing users increasingly choose Microsoft Windows 2000.  
[www.windows2000advantage.com/qa/01-29-01\\_aberdeen\\_reliability.asp](http://www.windows2000advantage.com/qa/01-29-01_aberdeen_reliability.asp)

### COLUMNS

The Windows 2000 tide is turning

After a rocky beginning, Microsoft Windows 2000 is coming around. How do we know? Because our readers are saying so.  
[www.windows2000advantage.com/columns/01-08-01\\_turning.asp](http://www.windows2000advantage.com/columns/01-08-01_turning.asp)

### CASE STUDIES

RadioShack, Starbucks blazing Commerce Server 2000 trail

Before Microsoft's Commerce Server 2000 hit the street, it went through a beta testing trial. Two trials, RadioShack.com and Starbucks were able to accomplish e-commerce goals.  
[www.windows2000advantage.com/case\\_studies/01-22-01\\_commerce.asp](http://www.windows2000advantage.com/case_studies/01-22-01_commerce.asp)

### NEWS >

Small Business Server 2000 offers large system functionality; early users report initial success

Based on Microsoft Windows 2000 Server, the all-new Microsoft Small Business Server 2000 provides small businesses with up to 50 PC's a cost-efficient way to take advantage of Microsoft's .Net enterprise servers.

For the full story, visit:  
[www.windows2000advantage.com/news/02-26-01\\_small\\_biz\\_server.asp](http://www.windows2000advantage.com/news/02-26-01_small_biz_server.asp)

### COLUMNS >

Windows XP, a.k.a. "Whistler," impresses our reviewer

The recently unveiled Windows XP, which embodies the client-side version of the enhanced Microsoft Windows 2000 version known as Whistler, offers stability, power, flexibility and extensibility that home and business PC users will enjoy on their desktops or the Internet. It also includes a slew of more glitzy capabilities that will allow these users to enjoy real-time voice, video and musical applications.

For the full story, visit:  
[www.windows2000advantage.com/columns/02-26-01\\_win\\_xp.asp](http://www.windows2000advantage.com/columns/02-26-01_win_xp.asp)

### FEATURES >

One year old, Windows 2000 is growing up fast

On its first birthday, Microsoft Windows 2000 has established itself as a staple in Web server environments, and is slowly making its way from the front end of IT shops to the back end of data centers. In the process, it's delivering significant savings and reliability and making life easier for users.

For the full story, visit:  
[www.windows2000advantage.com/features/02-19-01\\_birthday.asp](http://www.windows2000advantage.com/features/02-19-01_birthday.asp)

### ROUNDTABLE >

Windows 2000 users home in on desktop issues

At a recent Microsoft Desktop Deployment conference held in Denver, Colo., three attendees met with Windows 2000 Advantage managing editor, Stefanie McCann, to discuss deploying Microsoft Windows 2000 on the desktop. The enthusiastic participants quickly got down to business and said how impressed they were with the operating system's, security, and its overall reliability. The participants of the roundtable included: Travis Sanders and Donald Bizelli, systems analysts for WorldCom in Colorado Springs, Colo., and Frank Clark, CEO, Design Enterprises, Denver, Colo. and independent consultant.

Q: Did the conference deal mostly with deploying Windows 2000 on the desktop, or did you get into server deployment?

Sanders: We touched on server deployment just a little bit.

Q: When are your companies going to start migrating to Windows 2000?

Bizelli: There are rumors that we may start migrating as early as April.

Q: Is that just the desktop or server and desktop?

Bizelli: That is going to be the desktops to start with and then we'll migrate the servers.

For the full story, visit:  
[www.windows2000advantage.com/roundtables/02-12-01\\_users.asp](http://www.windows2000advantage.com/roundtables/02-12-01_users.asp)

### QUOTE OF THE WEEK >

"Everything I have touched, I have installed Windows 2000 on and I've beat the heck out of it. It is great."

— Travis Sanders  
 systems analyst  
 WorldCom  
 Colorado Springs, Colo.

## What is Windows 2000 Advantage?

The mission of Windows 2000 Advantage is to become your primary source of timely, useful information for planning and implementing Microsoft Windows 2000 on Compaq solutions and services.

Windows 2000 Advantage is a Web-only magazine because that lets us bring you,

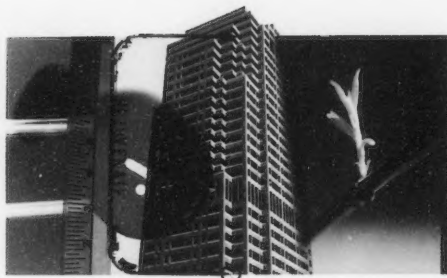
the IT leader, great stories that apply to your day-to-day work. We'll keep you up to date with a weekly e-mail alert so you don't miss a thing.

Windows 2000 Advantage is underwritten by Microsoft and Compaq. Its charter is to address the issues that most concern IT

managers charged with keeping their companies on top of the latest and best solutions Microsoft and Compaq have to offer. Toward that goal, we offer a wide range of stories including case studies, columns and news to provide you with information you can't find anywhere else.

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## More stories online:

- How ROI grows with your company.
- American Express' chief privacy officer defends customers' rights.

## Coming in the next issue:

### Risking It All

Rather than trying to calculate specific returns on each project, some companies are saving millions of dollars a year through a "portfolio" approach to IT spending. We'll tell you how.

### The High Cost of Privacy

You've heard the horror stories. Four female employees sue for sexual harassment based in part on off-color e-mail jokes. The upshot: a \$2.2 million settlement. Here's how to keep it clean and keep it legal without going broke.

### Out of the Think Tank

As CEO of The Research Board Inc., Peter Sole commands the attention of a select group of the world's most influential CIOs, who turn to this intensely private brain trust for insight and peer networking. In an exclusive interview with *Computerworld ROI*, Sole talks about moving away from cost savings and toward speed, agility and innovation as key metrics for measuring the business value of new technology projects.

### Also coming in the next issue . . .

*Computerworld ROI* columnist Pimm Fox details how smart companies use IT projects to boost their profiles on Wall Street.

## A Note From Computerworld's New President

I HOPE YOU ENJOYED THIS PREMIER ISSUE of *ROI*. As a former CIO with a large global staff, I'm especially sensitive to what business leaders need when buying and implementing today's technologies. One of the most critical and elusive of these necessities is return on investment. Without a clear line of sight, it's nearly impossible to make sound and inspired technology decisions — decisions for which we are held accountable.

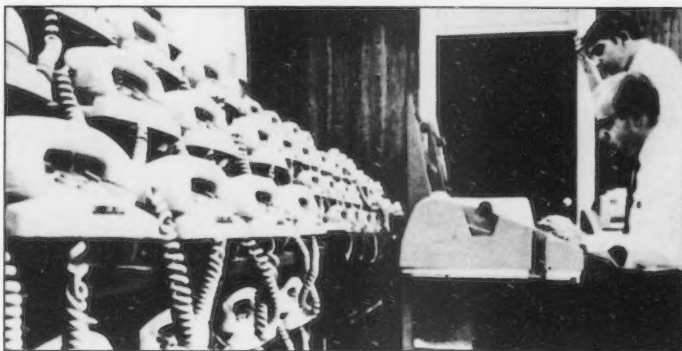


This issue of *ROI* is one in a series of new information products for business strategists and leaders. At *Computerworld*, we are committed to providing the insights and perspectives you need to succeed in a maze of claims and counterclaims, truth and vaporware.

We believe ROI starts with us — so the time you invest in our Web site and our newspaper should give you the very highest return. Visit [www.computerworld.com/roi](http://www.computerworld.com/roi) for additional resources on technology payback and, going forward, a community of business and technology leaders talking about the issues you face.

Today's dialogue on ROI will continue both in print and online. I invite you to e-mail your thoughts and comments, as well as suggestions for future stories, to [ROI@computerworld.com](mailto:ROI@computerworld.com).

Alan Guibord  
President, CEO and publisher  
Computerworld Inc.



*In 1969, we worked on a*  
**SECRET GOVERNMENT PROJECT**  
*that became the Internet.*

**OHhh, so that's why nobody knows who we are!**

Back in the '60s a small band of computer whizzes was hired by the Department of Defense to work on the ARPAnet. Or what is commonly known as the forerunner to the Internet. These visionaries came from the legendary research and development company, BBN.



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Government work being what it is, there wasn't a lot of publicity about this.

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Innovation is in our blood. It is at the core of everything we do: Web Hosting, Internet Access, Transport and Security. And now we've combined our expertise in these four areas into an integrated eBusiness Network Platform called Black Rocket.™ The managed eBusiness solution from a single accountable source.

To put this kind of thinking to work on your eBusiness, visit [www.genuity.com/blackrocket](http://www.genuity.com/blackrocket) or call 1-800-GENUITY.

**A BRIEF HISTORY**



In 1969, BBN was hired by the U.S. government to develop the ARPAnet, the forerunner of the Internet.



INTERNETWORKING

In 1997, BBN was acquired by GTE, the company that created our high-speed, 17,500-mile, Tier 1, fiber-optic network.

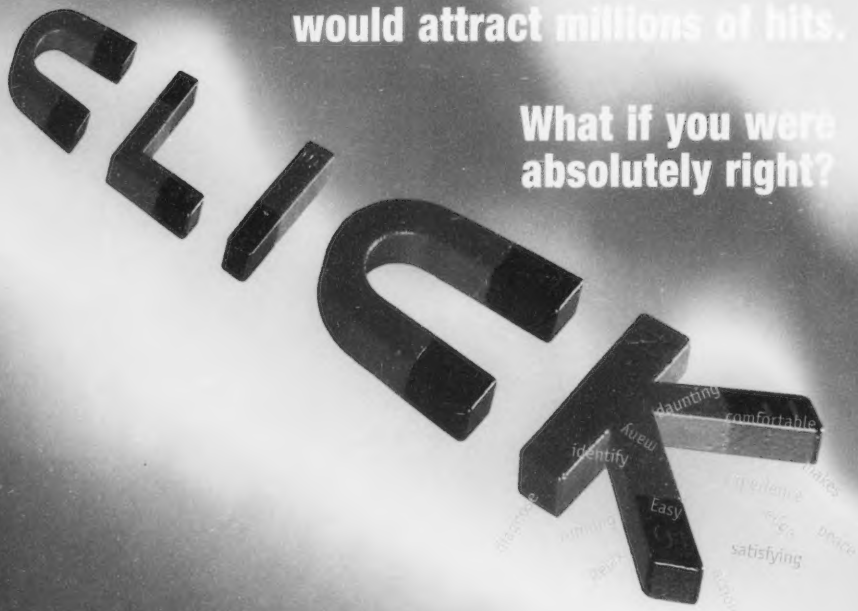
**GENUITY**

In 2000, GTE Internetworking became an independent company, renaming itself Genuity. Today, Genuity offers a vast array of managed Internet services, including Black Rocket.

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